

# IVF treatment supported by Chinese Herbal Medicine

*Mr. Eyal Politi*

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Eyal Politi Lic. Ac. Dip. CHM, 48 years old, is a specialist in Chinese Herbal Medicine focusing on male and female fertility for over 23 years since 1985. In his private clinic he has treated over 7,000 couples who face multiple fertility challenges and already seen 1,500 babies born. Eyal Politi is a fully qualified practitioner of Traditional Chinese Acupuncture and was educated in England where he spent 5 years of study at The College of Traditional Acupuncture (1989) and at The London College of Chinese Herbal Medicine (1991). Eyal is a member of the Traditional Acupuncture Society since 1990. He also taught in several natural medicine schools in such as Medisin and to medical doctors at the Bar Ilan University. At his clinic, Mr. Politi has been dedicated and focused solely on the treatment of infertility and often successfully combining his unique herbal treatment with conventional medical treatments. 70 percent of those that are treated by Mr. Politi, undergo in vitro fertilization (IVF) treatment. Eyal does not condone abandoning modern medical procedures; instead, he has developed natural herbal support systems that work alongside conventional IVF treatments to enhance and increase female fertility, sperm motility, egg quality, implantation success and finally the chances of conceiving a child. Eyal's knowledge is tested daily by Western standards, yet the roots of the herbal formula begin far away in the Vietnamese herbal tradition that was passed from father to son for generations in the Zen monastic tradition. The formulas combine the ancient wisdom of the East with modern technology of the West.

Mr. Politi's specially formulated supplements focus on:

1. Increasing the chances of implantation of embryos that are returned to the uterus
2. Improving egg quality in women around the age of 40 and above
3. Lowering the levels of FSH by improving the functioning of the ovaries
4. Improving the quality of the sperm to create embryos with improved quality, which raises the chances of pregnancy and its proper development

Mr. Politi has developed different formulas and conducted many trials and changes in the components of the formulas through years of working in cooperation with numerous IVF laboratories until he reached the desired optimized results with the highest pregnancy success rates. Mr. Politi has studied the effects of various herbs on the body's temperature, the uterus, ovarian function and the production of eggs. The formulas are based on ancient recipes found in the writings of ancient Chinese medicine 1,800 years ago that were changed and updated according to the needs required to assist fertility treatments for women in the West. The formulas were developed to effectively utilize specific herbs in conjunction with hormones taken during IVF treatment in order to produce the best possible results and ultimately increase rate of embryo implantation.

15 years ago, when intracytoplasmic sperm injection (ICSI) technique has emerged, Professor Benjamin Bartoov, Faculty of Life Sciences, Bar-Ilan University, Israel, an expert in male fertility, assessed the influence of the Sperm Quality Herbal Support formulas developed by Eyal Politi on sperm cell subcellular organelles. The ultramorphological (QUM) sperm analysis of the sperm samples were based on light microscopy (DIC) and electronic microscopy (TEM, SEM), that can correctly identify the ultramorphological state of the sperm cell subcellular organelles and thus determine the specific sperm quality (Bartoov et al., 1999). TEM enables viewing cross sections of the spermatozoa while SEM provides detailed information on the overall sperm structure. The patients pre- and post-treatment were considered the negative and positive reference groups, respectively. The study was conducted on 50 males with history of infertility (with low sperm quality) and after two months of treatment the treated patients underwent semen analysis. It was demonstrated that sperm count, semen volume and sperm motility increased significantly following treatment. Generally, improvements in the sperm morphology, nuclear structure and chromatin were observed.

Following the introduction of micromanipulation techniques, problems with sperm quality are less significant in the context of creating fertilized embryos. Still, however, ICSI is an invasive method that suffers serious drawbacks as this method bypass the natural sperm selection which may result in abnormalities of embryos.

There is an obvious link between sperm quality and the quality of the embryos similarly to the relationship between egg quality and the quality of embryos. Research studies showed that even if the sperm has fertilized the egg, it did not complete its role in pregnancy, as the embryo's quality and successful implementation depends both on the egg as well as the sperm quality. Thus Eyal has developed an herbal formula **Man's Herbal Support** aimed at improving male sperm quality along side with woman undergoing fertility treatments.

According to our studies, males with *Azoospermia* are required to take the herbal support plants **Man's Herbal Support** for up to six months, with monthly specialized analysis of the semen to find sperm cells in the semen. In many cases, the presence of sperm cells was detected with men who persisted in herbal treatment, resulting in successful fertilization and pregnancy.

Afterwards, Eyal Politi managed a private clinic in Bikur Holim Hospital, and focused on woman undergoing IVF treatments. Eyal has formulated a herbal treatment for improving the success rate of implementation and pregnancy, in an attempt to solve the most common question raised where good quality embryos have been developed and transferred, however implantation has failed. Treatment of women undergoing IVF with herbal support is mainly focused on the following areas: increasing the chances of embryo implantation, increasing blood flow supplied with oxygen to the uterine mucous membrane, improving egg quality and lowering FSH levels, removing excess fluid which is an undesirable side-effect produced by the injected follicle stimulating hormones and reducing stress and enhancing emotional calm.

Over the years, Mr Politi observed the effect of using follicle stimulating hormones during IVF cycles on the woman's body temperature; changes which are clinically diagnosed only by those mastering the pulse testing technique; an important diagnostic tool in *Chinese medicine*. Injection of gonadotropins such as Menogon or Gonal-F results in excess fluid accumulated in the lower abdomen which cools the uterus by absorbing the heat in the uterus walls. The uterus is a natural incubator which has to be kept at a constant and desired temperature to facilitate the embryo implantation following the transfer. Decrease by one degree or more may cause implantation failure and explains why in many cases quality embryos that have been

developed and transferred failed to implant. After years of clinical trials with different herbs, Mr Politi created a formula **Prenatal Herbal Support** that can disperse the excess fluid without affecting other systems related to implantation in the uterus. Woman using the herbal therapy that supports IVF, reported relief in bloating sensation while on the Follicle Stimulating Hormones (FSH) compared with the previous treatments without the use of these herbal support formulas.

Mr. Politi's goal was to create an environment in the uterus that resembles the one found during natural pregnancy. Over 60% of the women going through IVF treatments in Eyal's clinic were due to poor sperm quality. In most cases these woman have regular monthly period and normal fertility. As previously mentioned, injected follicle stimulating hormones result in excess fluid and cools the uterus. Specific herbs are included in the herbal formula **Prenatal Herbal Support** to help warm the blood supply to the uterus walls and specifically to the uterine lining. This results in increasing blood flow supplied by oxygen to the uterus and creating an environment for enhancing the embryo implantation. Additionally, the use of anesthesia during egg retrieval and the suction process itself causes disruption in blood flow to the uterus, which can be diagnosed by observing pulse according to Chinese medicine.

Mr Politi, expert in egg quality improvement and is one of his main treatment areas, has success where others have failed with improving egg quality with women over forty wanting to conceive. In general, egg quality tends to decline slowly in the late thirties, and more significantly in the early forties. Techniques originally used for anti-aging in Chinese medicine for over 2000 years, have proven helpful for improving ovarian function, egg quality and reducing high FSH levels. This Egg Quality Improving and High FSH Reducing Herbal Support (**Woman's FSH Support**) formula works in much the same way as DHEA supplementation recently introduced to improve egg quality in older women, but the success rates using Chinese formulas have outstripped those obtained by using the DHEA supplement. These plants were found as improve ovarian function and quality of eggs that can be measured by an increase in the number of fertilized eggs as well as improved quality of the embryos examined by microscopic examination. We have found by our studies that 50% of this women were treated with herbal support **Woman's FSH Support** successfully reduced their FSH below 10.

Women diagnosed as poor responders to hormone therapy or with high FSH refrain from hormone therapy, since these hormones further elevate FSH levels, thus reducing ovarian function, are typical candidates for egg donation. These women using of specified herbal support **Woman's FSH Support** for improvement of egg quality and reducing FSH with regular monthly periods, may conceive naturally; or with a low dose of hormones (to prevent the FSH from rising again); or by means of natural IVF using their own natural ovulation without using hormones.

The combination of soothing herbal substances in the formulas for embryo implantation is known to be an important factor in achieving a successful pregnancy. Many women experience increased level of stress while going through repeated unsuccessful treatments to achieve pregnancy, which itself may result in no pregnancy even when good quality embryos and other factors seem normal. Reducing stress level has proven to help many women in better preparing themselves for a successful pregnancy. The relaxing natural substances help overcome the stress factor and enhance relaxation of the body and mind, and in parallel help in relaxing the muscles around the uterus for allowing proper blood supply to the uterus lining.

Additional formulas developed by Mr. Politi and tested are Egg Donation Herbal Support (**Optimal Uterine Support**), Natural Fertility Herbal Support (**Parents' Herbal Support**) and IUI Herbal Support (**First Step**).

## Herbal Support ingredients - Latin and Common Names

Table 1: Latin and Common Names of each of the individual herbs for IVF Embryo Implantation Herbal Support termed **Prenatal HS**

Latin Names	Common Names
<i>Poriae Cocos, Scerotium</i>	Poria
<i>Coicis Lachryma –jobi, Semen</i>	Poria Core
<i>Poriae Cocos, Pararadicis</i>	Coicus Seed
<i>Angelicae Sinensis, Radix</i>	Angelica Sinensis (Dong Quai)
<i>Ligustici Waichii, Radix</i>	Ligusticum
<i>Radix Dipsaci Asperi</i>	Dipsacus
<i>Eucommiae Ulmoidis, Cortex</i>	Eucomia

\* IUI Herbal Support termed **First Step** same ingredients as Embryo Implantation Herbal Support termed **Prenatal HS**

Table 2: Latin and Common Names of each of the individual herbs for **Woman's FSH Support**

Latin Names	Common Names
<i>Rehmanniae Glutinosaea</i>	Rehmania glutinosa root prep
<i>Corni Officialis, Fructus</i>	Cornus officinalis fruit
<i>Dioscoreae Oppositae, Radix</i>	Dioscorea opposite rhizome
<i>Aismatis Pantago-Aquaticae, Rhisoma</i>	Alisma orientalis rhizome
<i>Moutan Radicis, Cortex</i>	Paeonia suffruticosa root bark
<i>Poriae Cocos, Sclerotium</i>	Poria cocos fungus
<i>Aconiti Carmichaeli Praeparata, Radix</i>	Acconitum carmichaeli root prep
<i>Cinnamomi Cassiae</i>	Cinnamomum cassia bark

Table 3: Latin and Common Names of each of the individual herbs for Natural Fertility Herbal Support termed **Parents' Herbal Support**

Latin Names	Common Names
<i>Poriae Cocos, Pararadicis</i>	Coicus Seed
<i>Angelicae Sinensis, Radix</i>	Angelica Sinensis (Dong Quai)
<i>Ligustici Waichii, Radix</i>	Ligusticum
<i>Eucommiae Ulmoidis, Cortex</i>	Eucomia

\* Egg Donation Herbal Support termed **Optimal Uterine Support** same ingredients as Natural Fertility Herbal Support termed **Parents' Herbal Support**

Table 4: Latin and Common Names of each of the individual herbs for Improve Sperm Herbal Support termed **Man's Herbal Support**

Latin Names	Common Names
<i>Rehmanniae Glutinosaea</i>	Rehmania root
<i>Moutan Radicis, Cortex</i>	Moutan bark
<i>Poligoni Multiflori, Radix</i>	Fleeceflower root
<i>Prunellae Vulgaris, Spica</i>	Prunella spike
<i>Phellodendri, Cortex</i>	Phellodendron bark
<i>Glycyrrhizae Uralensis, Radix</i>	Licorice root
<i>Achyranthis Bidentatae, Radix</i>	Achyranthes root

All of Mr. Politis formulas ingredients used were analyzed and certified (COA). The certificate of analysis includes heavy metals (Lead, Arsenic, Mercury, Cadmium and Copper), microbiological test (*E. coli*, Salmonella, Total aerobic microbial count, Molds and Yeasts, Staphylococcus aureus), mycotoxin (total Aflatoxin, Aflatoxin B1) and pesticides (Total BHC's, Total DDT's, Quintozene).

## **Herbal Support Function:**

### Embryo Implantation Herbal Support formula termed **Prenatal HS**

*Poria* - This herb is the main herb that eliminates the excess fluids around the uterus caused by the follicle stimulating hormones.

*Poria Core* - This herb helps in relieving stress by calming the mind and spirit during an IVF treatment. Relaxation has been determined to have a very important role in better coping and preparing most women for a successful IVF cycle.

Coicus Seed - same as Poria

*Angelica Sinensis (Dong Quai)* - This is a well known herb that helps warm the blood supply to the uterus which in turn helps preparing the uterine lining for implantation in a rich, warm and receptive environment.

*Ligusticum* - This herb is added to our Embryo implantation Support formula in order to help the Angelica (Dong Quai) move the blood supply in the outer walls of the womb making it an ideal warm incubator.

*Dipsacus* - This herb is a key ingredient in the treatment of infertility. It is known to warm the uterus by supporting it with warm energy. This herb also helps the formation of bones in the fetus which is why we recommend taking the Embryo implantation Herbal Support during pregnancy until the end of the 12th week.

*Eucomia* - A herb that helps support the uterus and is often used to decrease the chance of miscarriage. We include this herb in our Embryo implantation Support formula since it is instrumental in increasing success rate of implantation by helping the Dipsacus strengthen the fetus bones and enhance its correct development.

### Egg Quality Improving and High FSH Reducing formula termed **Woman's FSH Support**

*Rehmania glutinosa root prep* – A herb that helps to increase the ovarian function.

*Cornus officinalis fruit* – A herb that helps with embryo implantation.

*Dioscorea opposita rhizome* – same as *Rehmania glutinosa root prep*

*Alisma orientalis rhizome* – This herb is used to remove excess fluid through urination. This excess fluid cools the uterus and may result in failed implantation.

*Paeonia suffruticosa root bark* – A herb that helps to move the blood in the uterus

*Poria cocos fungus* – A herb that is used to remove excess fluid through urination.

*Acconitum carmichaeli root prep and Cinnamomum cassia bark* – Herbs that are used to warm the blood and the uterus walls and lining.

Improving Sperm Quality Herbal Support formula termed **Man's Herbal Support**

*Rehmania root* – This herb is used to increase sperm production.

*Fleeceflower root* - This herb is used to increase sperm production.

*Moutan bark* - A herb that circulates the blood flow in the testis and cools the blood of the testis.

*Phellodendron bark* - A herb that cools the blood of the testis.

*Prunella spike* - A herb that cools heat in from the testis.

*Licorice root* – A herb that is used to harmonise the function of the herbs in the formula.

*Achyranthes root* – This herb is used to circulate the blood in the testis.

**Scientific research on the herbs' function used by Mr. Politi**

In this study a few interesting matters have been raised, as follows:

- There are some published clinical trials investigating the efficacy of Chinese herbal medicine (CM) on female infertility with fewer studies on herbal medicine to improve sperm quality/quantity.
- Providing convincing evidence is more difficult than for most other disorders since the successful outcome is ultimately measured by the conception of a healthy child.
- Analysis and standardization of CM formula is complicated as the majority of the formulas are a complex mixture of any number of individual components.
- Isolating active compounds is similarly complex and any therapeutic efficacy of traditional CM may be related to synergism of the ingredients with potentially many different effects contributing to the overall response.
- The result of the metabolism of these compounds, the product, may be responsible for the resultant activities.

**Research on herbs function as used by Mr. Politi and supported by the scientific literature:**

*Dipsaci asperi - Dipsaci Radix* is the dried root of *Dipsacus asper* Wall. It has been used in Korean herbal medicine to treat bone fractures. In this study, Kim et al., (2011) examined the effect of the dichloromethane fraction of *Dipsaci Radix* (DR(DM)) on the osteoblastic differentiation of human alveolar bone marrow-derived Mesenchymal Stem Cells. There was a significant increase in the alkaline phosphatase (ALP) activity and protein expression of bone sialoprotein (BSP) and osteocalcin (OC) in response to DR(DM) as compared to control. In addition, roots of *Dipsacus asper* have been used as a tonic, an analgesic and anti-inflammatory agent to treat threaten abortion, in blood-circulation promoting activities and it also evidently inhibited the spontaneous contraction of pregnant rat uterus *in vivo* (as cited by Zhang et al., (2003) and Zhao and Shi (2011)). This is in accordance with Mr. Politi's formula **Prenatal HS** that uses this herb as a key ingredient in the treatment of infertility, warms the uterus by supporting it and is used during pregnancy as means for helping in the formation of bones in the fetus.

*Angelicae Sinensis, Radix - Danggui Buxue Tang (DBT)*, which consists of two herbs: *Radix angelicae sinensis* (RAS) and *Radix astragali* (RA), has been used for "regulating and enriching blood" for hundreds of years, and its clinical efficacies are well established. It is used to raise the "Qi" and nourish the "Blood" of the individual. RAS root is used to invigorate the blood circulation in the treatment of menstrual disorders (Song et al., 2004, Zheng et al., 2010). Formulas based on *Angelica Sinensis* are used as hematic and blood-activating medicine, adopted for clinical use in China and Japan (as cited by Tang et al., 2010). Essential oils from *Angelica Sinensis* showed that the inhibitory activity on mice uterine contractions *in vitro* (Tang et al., 2010). This is in accordance with Mr. Politi's formula **Prenatal HS** that uses this herb to warm the blood supply to the uterus.

*Poria cocos* - *Poria cocos* is a main ingredient in many CM drug combinations that is effective in prolonging pregnancy until delivery and protecting fetus carrying allogenes that would otherwise induce maternal rejection. This herb is known for its therapeutic effect against recurrent spontaneous abortion and other abnormal pregnancies and suggested as an immunosuppressant for treatment in organ transplantation (Zhang et al., 2004). This is in accordance with Mr. Politi's formula **Woman's FSH Support** that uses this herb to remove excess fluid accumulated in the

lower abdomen through urination. This excess fluid cools the uterus and may result in failed implantation.

*Cinnamomum cassia bark* - Cinnamomum cassia bark and twigs of this plant are used as a traditional Chinese herbal medicine to improve blood circulation. Kim et al., (2010) found the most active anti-platelet constituents of C. cassia. This is in accordance with Mr. Politi's formula **Woman's FSH Support** that uses Aconitum carmichaeli root prep and Cinnamomum cassia bark to warm the blood and the uterus walls and lining.

*Aconitum carmichaeli* - Aconitum carmichaeli have been recognized as being effective for the treatment of a "peripheral uncomfortable feeling of cold". Yamada et al., (2005) showed that this compound improved peripheral tissue blood flow in rats. This is in accordance with Mr. Politi's formula **Woman's FSH Support** that uses Aconitum carmichaeli root prep and Cinnamomum cassia bark to warm the blood and the uterus walls and lining.

*Cinnamomum cussia bark, Poria cocos and Paeonia suffmticosa root bark* - Combination of herbs including Cinnamomum cussia bark, Poria cocos and Paeonia suffmticosa root bark are used in the treatment of gynecological disorders such as hypermenorrhea, dysmenorrhea and infertility. Sakamoto et al., (1988) showed that administration of a remedy including these herbs reduced levels of luteinizing hormone (LH), follicle-stimulating hormone (FSH) and estradiol (E<sub>2</sub>) in immature rats. In further studies Sakamoto et al., (1988) further showed that herbs including also this combination are responsible for shrinking of uterine myomas. This is in accordance with Mr. Politi's formula **Woman's FSH Support** that uses these herb combinations for reducing high FSH.

*Cornus officinalis fruit* - contains high levels of Anthocyanins with antioxidants and anti-inflammatory properties (Seeram et al., 2002). Mr. Politi's formula **Woman's FSH Support** uses this herb to help with embryo implantation.

*Phellodendron bark* - A formula which is composed of phellodendri cortex (Phellodendron bark) is described as eliminating heat, excreting dampness in traditional Chinese medical literatures as cited by Kong et al., (2004). This is in accordance with Mr. Politi's formula **Man's Herbal Support** that is used to cool the testis.

*Rehmania root, Phellodendron bark, Moutan bark* - Tempest et al., (2008) investigated for relevant biochemical activity Chinese Medicine for the Treatment of

Male Infertility. They studied various individual herbs including Rehmania root, Phellodendron bark, Moutan bark and Licorice root. Out of these herbs Rehmania root, Phellodendron bark, Moutan bark showed high antioxidant activity. Especially Phellodendron bark showed a very strong antioxidant activity with strong hydroxyl radical scavenging effect, and also was found to be capable of scavenging superoxide radicals and in addition inhibit lipid peroxidation. Antioxidant activity may play a role in stabilizing the sperm membrane and prevent/reduce lipid peroxidation of the sperm plasma membrane that may result in sperm dysfunction and cell death. Additionally, flavonoids from Prunella spike have significant antioxidant activities (Zhang and Mingming Hu, 2011). These herbs are used with Mr. Politi's formula ***Man's Herbal Support*** for generally improving sperm quality.

*Licorice root* - Licorice root showed a very high oestrogenic activity. Oestrogen has a role in the male reproductive endocrine pathway; it is believed to operate through negative feedback mechanisms. The use of such herbs may counteract excess oestrogen found in the body through diet/environment or through altering the negative feedback mechanisms resulting in the increased production of testosterone and LH as seen in this study (Tempest et al., 2008). Mr. Politi uses this herb in ***Man's Herbal Support*** formula to harmonise the function of the herbs in the formula.

*Achyranthes root* - The protein isolated from the alcoholic extract of the root of *Achyranthes aspera* (Ap) possess spermicidal activity and, the mechanism of action seems to be by acting on the membrane integrity (Anuja et al., 2010). The entire root, stem and leaf extracts of plant possess estrogenic, antibacterial and anti-inflammatory effects (Zhang et al., 2011). This herb is used with Mr. Politi's formula ***Man's Herbal Support*** through negative feedback mechanisms, where the output of a system acts to oppose changes to the input of the system.

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