### ALTERNATIVE MEDICINE FOR MALE INFERTILITY

#### What is alternative medicine?

Alternative or complementary medicine is defined as "diagnosis, treatment and/or prevention that complements mainstream medicine by contributing to a common whole, and by satisfying a demand either not met by orthodoxy or by diversifying the conceptual frameworks of medicine." Often grouped together despite having fundamentally different approaches and philosophies, alternative medicine includes acupuncture, homeopathy, massage, aromatherapy, reflexology and herbal medicine. It is estimated that alternative medicine is used by about 48% of the population in the US and by about 30% of male infertility patients.

Why should I consider alternative medicine?

People adopt alternative medicine for a variety of reasons. The most common among them are:

- Perceived effectiveness
- Naturalness
- Non-invasiveness and safety
- Addressing the "spiritual dimension" (e.g. holism) in treatment
- Positive patient/practitioner relationship
- Pleasant therapeutic experience

One curious issue is why patients desire to "turn away" from conventional healthcare. The most commons reasons for this are:

- Dissatisfaction with the doctor-patient relationship, expressed as either insufficient time with the doctor or too long a waitlist to see a doctor
- A rejection of science, technology and the establishment
- Out of desperation

## How is alternative medicine really different from conventional healthcare?

"Complementary medicine is much older than conventional modern medicine. Because of this, it is based on a tradition of holism and intuition, rather than on scientific inquiry. It is essentially a whole different language than that of modern medicine." — Dr. Paul Turek

Certain forms of alternative medicine are thousands of years old and steeped in tradition. Indeed, alternative medicine is an integral part of many Asian and African cultures to this day. The fundamental difference between alternative medicine and conventional medicine is that that latter is based on the "scientific method," in which medications and treatments are studied for their ability to work before or after they are given as treatment. Alternative medicine currently lacks a similar research infrastructure and tradition and so the majority of published works about it are largely opinion based, and lack the support of rigorous research studies.

It is often stated that alternative medicine cannot be easily measured as medern medicine would like, in a scientific and reductionist manner because of its individualistic, holistic and intuitive nature. On the other hand, at a ternative needed is to be incorporated into modern medicine it will need to be statied through double-blind placebo controlled clinical trials, and through tests and research that demonstrates an actual plausible mechanism is the effect.

# What kinds of research have been done on alternative medicine for male infertility?

Over 450 clinical trials have examined Chinese herbal medicine in a various diseases including asthma, dermatitis, eczema, cancer, diabetes mellitus, heart disease, irritable bowel syndrome, pneumonia, rheumatoid arthritis and viral hepatitis. Most of these trials are published in foreign languages that make it difficult for us to interpret and understand. Published work that is focused on reproductive problems in Chinese herbal medicine relate to female infertility, including ovulatory dysfunction, endometriosis, luteal phase defect, immunological infertility and tubal factor infertility. Far fewer studies have looked at the use of Chinese herbal medicine to improve sperm counts and semen quality in men and far fewer yet have addressed the issue of how herbs that are commonly used for male factor actually work. Given what we understand about male infertility, it is likely that herbal remedies work by altering the hormone environment in men or protecting sperm from oxida-

tive stress with their antioxidant properties.

There are many examples in the literature of clinical trials that claim to show the benefit of antioxidants for male infertility. Most are not blinded, placebo-controlled studies and they use antioxidants in different combinations and dosages, for varying durations and for different reasons. Also the outcomes (changes in semen quality) may not be relevant or sensitive. Similarly, beneficial effects of vitamins C, E, Beta-carotene and selenium on semen quality have been reported but in studies that have similar limitations. One randomized, placebo-controlled, double blind clinical trial looked at the effects of high-dose vitamin C and E found no changes in semen parameters during treatment.

Over the last decade, much research has looked into the chemical components of plants used in traditional Chinese medicine to establish a reliable composite formula of such products. A few studies have examined the effects of these herbs in a culture dish setting to understand what biological activity may be present that could translate into real effects in humans.

The integration of traditional Chinese and Western medicine is a potentially rich source of new infertility treatments. However, the formulas of Chinese terbal medicines really need to be standardized to be able to study their well. Unprtunately this is not a simple task, as it is a complex process to isolate and study active compounds in complex mixtures. In addition, a may be the breakdown product (metabolite) and not the product itself that is effective. Lastly, herbs grown at different times of year and within different geographical regions may possess different properties, and contamination with pesticides, heavy metals, weeds and foreign matter could occur. Despite these limitations, it is still encouraging to know that "scientific" medicine is working hard in helping us to better understand what alternative medicines might help us treat male infertility. Dr. Turek is excited about the prospects of seamlessly incorporating alternative medicine treatments into the more conventional therapies for male infertility.

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