

# Clinical Notes on Traditional Chinese Medicine and Gynecology Investigation on the Possible Reasons of Unknown Reason Infertility in Women

### Wei Meng\* and Ruixia Deng

School of Chinese Medicine, The University of Hong Kong, Hong Kong

\*Corresponding author: Wei Meng, School of Chinese Medicine, The University of Hong Kong, Pokfulam, Hong Kong, Tel: +852 39170483, E-mail: bmeng@hku.hk

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**Abbreviations:** TCM: Traditional Chinese Medicine; ART: Assisted Reproductive Technology; PR: Progressive Motility

#### Introduction

In Traditional Chinese Medicine (TCM) theory, the necessary and absolute conditions for natural pregnancy of a woman should have prosperous "Shen qi" and menstruation, andher "Renmai" (Conception Vessel) and "Chongmai" (Thorough fare Vessel) are vigorous in functions. Successful conception occurs when the woman has sexual intercourse with a man who has flourish kidney energy dissipated from overflowing, which is considered as "Ying" and "Yang" harmonious [1]. Usually without contraception, 70-80% of newly married wives will be pregnant after honeymoon.

Therefore, "infertility" is world widely defined as couples who have failed to conceive after 12 months or more of regular sexual intercourse without the use of contraception. But in our country, According to national conditions, over the years that "infertility" is referred to the failure to achieve a clinical pregnancy after 24 months or more [2]. Nowadays, there are many therapeutic methods for infertility. After hundreds of explorations and simplification of procedures, enriching and accumulating clinical experiences, assisted reproductive technology (ART) is confirmed with its feasibility and safety, which can help 20-40% of infertilities to have babies. It is a milestone of reproductive technology in history, which breaks the absolute natural limitations, for examples, cases in tubal clogging in both sides and oligozoospermia [3].

However, this technology may also cause side effects, such as multiple pregnancy, ovarian hyperstimulation syndrome, long-term prognosis, etc. Furthermore, it also disadvantages including has high stress of implementation, expensive charges and low efficiency. Many reproductive centers and institutes found that most of infertility cases are due to male infertility while the second common cause is the ovulation problem. The pregnancy chance is extremely low in the cases of no cause found, which about 10% of infertility is. No obvious underlying cause refers to the couples with normal results in most of all examinations. In other words, the female population of these infertility cases has similar clinical examinations results as the normal populations.

Some people don't realize that infertility is a complex disease which is required for detailed and comprehensive body checking. It is not correct.

"No cause found" is a problem for both infertilities and doctors. As clinical doctors, we are attempting to explore the underlying causes in many years. According to our clinical observations and experiences, we summarized and addressed the possible reasons as below.

## It Is Disable or Difficult to Process the Union of a Human Egg and a Sperm

In human natural ovulation, usually a dominant follicle is formed on one side of the ovaries alternatively, which can be observed under ultrasound imaging. Through a signal transduction cascade initiated hormones, when follicle is mature, oocyte leaves the ruptured follicle and moves out into the peritoneal cavity, where it is caught by the fimbriae at the end of the fallopian tube. After entering the oviduct where it may meet with the waiting sperms, the oocyte is pushed along by cilia, beginning its journey toward the uterus. The process is an essential and requisite for fertilization. It might be one of the possible reasons of no cause infertility cases. In clinic, about 70% of no cause infertility cases occur because of dysfunction of oviduct, resulting in low chances of a sperm and the oocyte fusion.

Obvious changes in the shape of fallopian tube can be diagnosed by B-type ultrasound, hysterosalpingography, laparoscopy or other treatments. But dysfunction cannot be predicted while the clinical morphology of the fallopian tube is normal. However, we are unable to examine or evaluate its function with current techniques. Chlamydia infection, pelvic inflammatory disease, inflammation after laparotomy, endometriosis caused by fallopian tube adhesion may lead to the oviduct dysfunction.

Therefore, active prevention and treatment of these diseases is one of the methods to solve problems. With comprehensive understanding of these diseases, TCM has accumulated experience in the treatments, especially for the chronic diseases. TCM treatment presents more advantages in sustainability low side effects and the individualized therapy. Hence, it cannot be easily think that a sperm will meet an oocyte in all normal tubal angiography examinations. Assisted reproductive technology benefits patients with fallopian tube problem, especially for women who have been diagnosed with hydrosalpinx or tubal clogging. But some patients are still unable to be pregnant after multiple IVF-ET treatment, then what is the possible reason? We will discuss it in next chapter.

### Sperms in Standard Quality but with Low Fertility Function

According to WHO 1999 recommended reference value in semen routine examination, normal forms semen volume  $\geq 2$ ml, semen liquefaction time is about

20mins under room temperature, sperm concentration  $\geq$ 20 x106/ml, total sperm  $\geq$  40 x106/ml; progressive motility (PR)  $\geq$  50%, vitality  $\geq$  50%, normal forms  $\geq$ 15%, WBC  $\leq$  1x109/ml. In 2010, the recommended semen reference value of normal forms is  $\geq$  4%. It is considered men have fertility capability when semen analysis is determined in normal values. If any abnormal results in sperm concentration, motility and morphology. it is required to repeat examination for 3 times after 1-2 weeks. According to the standard reference as above, abnormal sperms are briefly identified with less quantity, week motility as well as vitality, and poor morphology, which is very easy to be identified in semen routine examination. However, there are fewer cases of sperms with good quality but lower fertility function. It will lead to a poor conception even when sperms meet oocyte in good conditions. Based on clinical an examination findings, it will cause infertility when sperms are with less progressive motility, or shorter tails, or with spherical heads in instead of elliptical heads.

In traditional Chinese medicine, many issues will cause sperm abnormal, including excessive sexual life and masturbation, constitution with insufficient "Yang", high nervous intensity, environment pollution, ionizing radiation, which will induce low sperm production or less function. In TCM theory, to balance "Ying" and "Yang" by regulating "Shen" (Kidney), strengthening vital "qi", coordinating "Zang" and "Fu" (internal organs) which respects the principles of mutual creation and destruction, improving physical fitness.

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