



AMH – What Does It Really Mean?

Markers of Ovarian Reserve Viewed Through the Lens of Chinese Medicine

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Estradiol
Inhibin B

FSH - Follicle Stimulating Hormone
AMH – Antimullerian Hormone

“Ovarian reserve” testing can be intimidating and daunting. The results often feel like a fertility death sentence. When viewed through the eyes of Chinese medicine, however, these laboratory markers of ovarian potential can actually make diagnostic sense, and help determine the best natural therapeutic course for you. It will be helpful to understand a little reproductive physiology first.

Brain Hormones:

The pituitary gland, which sits behind your eyebrows, emits FSH (follicle stimulating hormone) in response to messages translated by the hypothalamus, which secretes Gonadotropic releasing hormone (GnRH) in response to the hormone levels in your blood, and your emotional response to your environment. This hormonal command post, like all of the hormones in your body, responds to internal chemical messages conveyed through the blood, and emotional interpretations of your external environment.

These external and internal messages determine how the pituitary hormones interact with and are able to communicate with your ovaries, and how the ovarian output communicates back to the hypothalamus and pituitary gland.

Ovarian Hormones:

Activin and Inhibin B are protein complexes within the ovarian follicle. Activin enhances FSH secretion, cellular proliferation and plays a role in menstrual regulation. Inhibin B, on the other hand, down regulates and inhibits GnRH from the hypothalamus, and FSH secretion from the pituitary gland.

When the system is in sync, the hypothalamus secretes GnRH to trigger the pituitary gland to release small amounts of FSH during the last few days of the previous menstrual cycle, which rise until the beginning of the next follicular phase. FSH recruits Graafian (or antral) follicles, which have been growing within the ovary for the better part of a year. Around three months before these follicles are ovulated, they enter the tonic growth phase, where protein synthesis occurs.

Follicles that have interacted optimally with the internal environment have the potential to become dominant follicles, primed by FSH. They then secrete estrogen, and express LH receptors, which allow the chosen dominant follicle to mature and become capable of ovulation.

Higher levels of Inhibin B indicate that the ovarian follicle is doing its job of putting out adequate estradiol. Inhibin B provides negative feedback to the hypothalamus and pituitary gland to let them know to turn down the GnRH and FSH, as output is sufficient.

The High FSH Craze

Within the last ten to 15 years, reproductive medicine has been making quite a fuss over high FSH levels. Chinese medicine doesn't focus so much on the unqualified meaning of laboratory values like Western medicine does; we view lab results energetically according to what is behind them, rather than providing meaning to the absolute numerical value.

The body energetically views the ovaries as "essence", an elemental potential, like the primordial follicles within them. Follicles are only potential until they begin to interact with their internal environment, which is responding to cues coming from our interpretation of our external environment. All of this is subject to change, when we change our internal environment, and our response to our external environment. FSH, on the other hand, is viewed as "heat", which activates the potential of the ovaries' essence in the form of eggs, and resulting blood levels of estradiol (or yin). When the essence is adequate, it doesn't require much heat to ignite the ovaries. When the essence is weak (due to stress, lack of restoration, follicular malnourishment, and the demands of life), it takes more heat to induce the necessary ovarian response, indicative of present ovarian health.

To put it simply and in energetic terms, those who have high FSH and low estradiol levels generally have too much heat, in relation to the underlying essence capable of responding to FSH stimulation. Although optimal FSH values are seen as <10, The Fertile Soul Method ® has helped women whose FSH values are well over 100 conceive naturally. First, however, we have had to energetically reduce their heat, and maximize their essence, which allows the FSH to activate healthy follicles.

Although Western medicine views the reproductive system as an ever-deteriorating disease process waiting for intervention, Chinese medicine employs a different lens. We view the body/mind/spirit as an ever adaptive system, which, when given appropriate environmental cues, has a miraculous ability to manifest its highest potential.

The Low AMH Frenzy

As if high FSH values, and low estradiol/inhibin-b levels weren't enough to convince you of your need for drastic intervention and donor eggs, the newest craze in ovarian reserve testing is a hormone known as Anti-Mullerian Hormone or AMH. Again, some reproductive physiology will be helpful to make sense of this hormone. During embryonic development, male testes produce AMH, to inhibit the expression of Mullerian ducts, which become female sexual organs. In the presence of AMH, the primordial urogenital ridge bears Wolfian expressions of prostate, testes and vas

deferens, rather than the female Mullerian expressions of fallopian tubes, uterus and vagina. We could look at Anti-Mullerian Hormone as a “holding back” hormone. After birth, AMH becomes expressed by females, within the granulosa cells of the ovary, where it inhibits the responsiveness of growing follicles to FSH. Since human beings aren’t made to raise litters, the body’s internal wisdom does not allow the recruitment of all of the primordial follicles, as only one dominant follicle is chosen for ovulation during each menstrual cycle. If FSH is viewed as heat, and estradiol is viewed as yin, AMH is viewed as the “essence potential”, or the ability to hold back the ovarian essence from interacting with the pituitary gland’s igniting fire. The greater the body’s ability to hold back ovarian essence, the easier it is for the FSH igniting potential to activate a response in the form of a healthy egg and its resulting estradiol levels. Therefore, higher AMH values are indicative of a greater abundance of interactive follicles. The range of AMH values run between 0-6 ug/L. The closer you are to 6, the greater the force behind the dam. Once again, The Fertile Soul Method ® has helped women whose AMH values were zero conceive naturally. How does this work?

Putting It All Together

We are endowed with a primordial pool of follicles during fetal development. At birth they measure near one million; by the time we enter menarche, they number about 500,000, and by the time we approach the perimenopausal years we have around ten thousand. These primordial follicles do not undergo any change or deterioration until they begin to circulate within the ovaries’ response to its internal environment, which is an inner result of how we relate to our external environment.

The hypothalamus interprets our emotional response to our environment (via neurochemicals), and translates it into hormonal messages in the form of GnRH or Gonadotropin Inhibitory Hormone. These chemicals then trigger the appropriate response from the pituitary gland, whose hormones signal the gonads to release their germ cells and hormones. The resulting blood laboratory values are a manifestation, not a cause. These circulating hormone levels feed back to the hypothalamus, along with our emotional response, to regulate its ongoing release of brain hormones. Because of this adaptive feedback system, supplying external hormones will not improve the function of the ovaries; only suppress their release. In order to improve the functioning of any part of this system, the entire system must be addressed.

Tiny follicles leave their primordial pool (again, not changed since before birth), and enter into the growing pool of follicles, where the dominant follicles are activated by FSH fire from the pituitary gland. The number of circulating follicles depends upon many factors – blood flow to the ovaries (which can be enhanced), nutritional and hormonal fuel to the ovaries (which can be enhanced), our emotional response to our environment (which can be enhanced), our ability to restore and access the follicles to allow them to enter into a healthy internal environment (which can be enhanced.) The number of follicles in the growing pool determines the levels of AMH. Only the chosen dominant follicle will mature in response to the pituitary gland’s release of luteinizing hormone during ovulation.

LH can be viewed as the energetic trigger, causing the entire cascade to produce the potential for release, fertilization, implantation and continued growth.

An early antral follicle releases estradiol in the form of yin. If the endocrine system provides messages that this system is conducive to new life, the ovaries perceive a great internal potential to produce more follicles. They will respond with more yin, access more essence, and the entire cascade will dance into full expression. AMH values will rise. FSH values will tend to lower, as very little flame is necessary to keep the fire going. More follicles will produce greater levels of inhibin B. The body will select a dominant follicle; LH will mature its residing egg, and allow the release of a healthy potential.

Keeping The Fire Burning

A simple analogy – FSH is the flame. The uterus is the oven. LH is the opening of the flue. The ovaries are the wood; Estradiol measures the available wood for burning, inhibin B could be seen as the damper that keeps the fire from burning out of control, and AMH could be seen as the lighter fluid. If we are trying to ignite the spark of life and keep it going, we need to ensure all of our provisions are adequate. Assisted reproductive technology gives you one tool – more fire. However, if we need a drier oven, if we need to gather more wood, soak it in more fluid, or reduce the wind that is keeping the spark from igniting, more fire is not the only answer. In fact, sometimes more fire actually keeps the materials from being able to burn on their own. A flame-thrower is not the best way to tender the gently burning fire of life. Some ways you can improve your capacity on your own:

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| Reduce stress | Perform reproductive and femoral massage |
| Take anti-oxidants | Eat organic, natural fruits and vegetables |
| Get adequate rest | Practice internal deep breathing techniques |
| Acupuncture | Keep yourself in supportive environments |
| Chinese Herbal therapy | |

The Fertile Soul Method ® is proven to maximize your reproductive potential. Most of our patients are 40 or over; most have high FSH, low AMH, other hormonal abnormalities, or have been diagnosed with poor ovarian reserve, poor egg quality, endometriosis, or recurrent miscarriages. Most have not found their answers solely within Western reproductive medicine. Most have been able to rectify their internal energetic imbalances through our program, and produce new life.

Dr. Randine Lewis is the founder of The Fertile Soul, the president of the Continuing Excellence in Fertility Professionals, the author of The Infertility Cure, and The Way of the Fertile Soul. Find out more about Dr. Lewis' work at www.thefertilesoul.com, and about The Fertile Soul's network of professional fertility acupuncturists at www.thefertilesoulcefp.org.