



Elevated Day-3 FSH

FSH or Follicle Stimulating Hormone is one of the two hormones secreted from the pituitary gland to regulate the function of the ovary (LH or luteinizing Hormone being the other).

Normally FSH is at a low concentration at the beginning, and increases during the early phase of the menstrual cycle to promote the development of the follicles in which eggs mature and stimulate the ovaries' production of estrogen.

The estrogen (estradiol) is produced by the follicle in the ovaries, which then "feeds back" to the pituitary to decrease the production of FSH. The amount of estradiol produced by the ovary generally reflects the number of healthy growing eggs that it contains. If the ovary does not have enough reserve of healthy follicles to produce sufficient amounts of estrogen, it is unable to "feedback" to the pituitary and turn off the production of FSH. Therefore the blood levels of FSH will be higher than normal.

Significance of Elevated Day-3 FSH

On the third day of menstrual bleeding a blood sample is taken for FSH level as part of the evaluation of the ovarian reserve (ability of the ovary to produce sufficient health follicles in response to IVF medication). Evidence has correlated an increase in the levels of FSH on Day-3 with poor ovarian reserve. In other words, if the FSH level is high (more than 10 in our lab) this represents a poor prognosis for IVF. Poor prognosis means a higher rate of cycle cancellation due to poor response to medication, poor egg quality, hence eggs with poor ability to fertilize, and an increased rate of miscarriage. It is impossible to note that abnormal FSH levels are not absolutely predictive of no possibility for a successful pregnancy. However the chances of success are significantly reduced.

Based on this information, we strongly advise our patients with significantly elevated FSH against proceeding with IVF treatment as there is a high likelihood that it will result in undue disappointment and cost.

It is important to note that FSH levels fluctuate. This means that in one cycle it may be elevated and when checked again in another cycle it may be with the normal limits. Unfortunately this return of FSH to normal limits does not improve the prognosis once an elevated level has been found.

Other Ovarian Reserve Tests

Several other factors and lab tests can be used in combination with Day-3 to check the ovarian reserve. The most reliable factor remains the age of the female partner. Other tests include Day-3 estradiol and inhibin B levels, clomiphene challenge test and finally day-3 antral follicle count done by trans-vaginal ultrasound.

Other Programs

The effect of an elevated day-3 FSH in non-IVF related circumstances is not completely understood, but it is thought that it is associated with a decreased ability to conceive and an increased spontaneous miscarriage rate.

It is important to note that there are normal pregnancies that occur in women with elevated Day-3 FSH levels (under non-IVF situations).

The implication of elevated FSH for outcome in other intervention protocols such as intrauterine insemination (IUI) is still being evaluated.

Adoption as an alternative to creating a family is a valid option in Islam.

For more information please feel free to visit the following web sites:-

<http://www.lhsc.on.ca/programs/infertility/pi-fshk.htm>

<http://www.advancedfertility.com/day3fsh.htm>

<http://genesis-fertility.com/facts/>