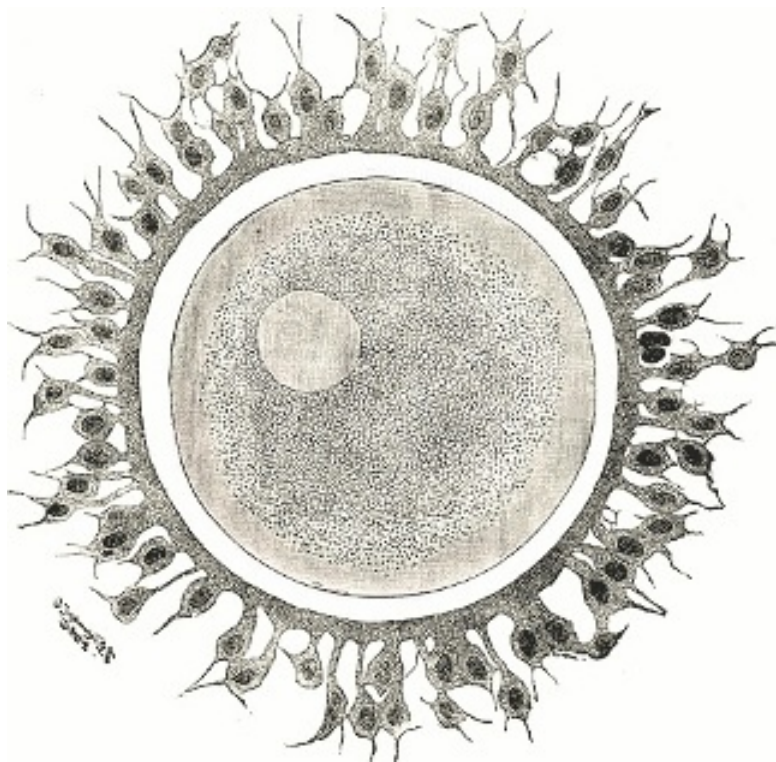


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Influence of Leptin/Weight Ratio in Controlled Ovarian Stimulation in Assisted Reproduction



It has been observed that both overweight women and those with very low weight have difficulty becoming pregnant, and that these two groups have different levels of leptin related to the reproductive axis. The results of a study with patients undergoing IVF or ICSI show that high levels of intrafollicular leptin reduced egg production and a lower body mass index implied a higher number of fertilised oocytes, regardless of the leptin levels.

The study was based upon the observation that overweight women or otherwise, with very low weight, have trouble getting pregnant. There is evidence showing that leptin levels interact with

the reproductive axis of animals. Moreover, nutritionists have found significant differences between leptin levels of anorexic/bulimic women and obese women. Thus, this study aims to demonstrate that there is a direct relationship between body overweight patients and leptin levels in follicular development in patients undergoing controlled ovarian stimulation.

The study was performed in 94 cycles out of 88 patients undergoing in vitro fertilization and ICSI. The causes of sterility/infertility were classified by sterility factor (male factor, tubal factor, endometriosis assessed by laparoscopy, endocrine -ovarian factor, unexplained infertility cause), age was also considered (21-40 years), as well as a group called "donators", presumably healthy patients who underwent ovarian stimulation in order to get their oocytes and donate them to the receiving patient. Patients were placed in 3 groups according to their body mass index in the normal, underweight and overweight.

Patients were stimulated with an average of 225 IU of Menotropins, and were subcutaneously applied 0.25 mgs of Cetrotide to prevent premature luteinization of ovarian follicles. All patients underwent ultrasound follow-ups at days 1, 5 and 8, in order to measure and count the follicles present in both ovaries and endometrial thickness measured before and after stimulation. Serum samples from basal leptin and follicular fluid were collected during oocyte capture after ovarian stimulation.

Conclusions: There is an association between leptin levels in the follicular production, at obtaining oocytes and in pregnancy rates. Elevated leptin levels have intrafollicular partial effect on follicular oocyte production and reduce their number. Body mass index seems to play an important role in basal concentration leptin or follicular, the lower the body mass index, as many will be fertilized oocytes irrespective of the levels of leptin. Moreover, it has been demonstrated that the basal serum leptin levels have a definite effect on follicular leptin concentration and in turn, have an overall effect on the yield and quality of oocytes.

Obesity is considered a pandemic disease resulting from sedentarism, in combination with poor eating habits, anorexia and bulimia in turn are food - endocrine disorders involving psychological and even death in older grades disorders.

Women are now more integrated in job roles in recent years, together with the current social dynamics, has caused many women to delay age at first pregnancy. It has been established that the age of 37 dramatically decreases the ability of a woman to become pregnant spontaneously, however assisted reproduction treatments offer a real alternative for this group of couples.

Age is an important factor because the younger the patient, it is presumed that their basal follicle count will be higher, showing a clear correlation between these two variables.

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Paediatrics, Obstetrics, Gynaecology and Preventive Medicine and supervised by Dr. José M^a Gris Martínez.

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