

The Effect of Different IVF Protocols for Women with Endometriosis on their IVF/ICSI Outcomes: A Systematic Review and Meta-analysis

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ABSTRACT

Background: Infertile women with endometriosis who require IVF/ICSI treatment have poorer outcome compared to women without endometriosis. Those with coexisting endometrioma during IVF treatment yield significantly less oocyte during oocyte retrieval procedure despite the need of more stimulation drug. They produce poorer embryo quality that results poor implantation rate. The exact mechanism is however still left unexplained although being widely researched. Various treatment strategies have been investigated to improve the outcomes including stimulation protocol regime. **Objectives:** To compare and analyse the use of various IVF protocols (ultralong, long, antagonist protocols) in women with endometriosis. **Search Methods:** Studies were chosen independently by two researchers. We used several online databases from The Cochrane Register of Controlled Trials (CENTRAL) and the Cochrane Library, MEDLINE, EMBASE, PUBMED, Google Scholar, European Society for Human Reproduction and Embryology (ESHRE) and Science Direct. We also reviewed lists of research articles and review articles. **Selection Criteria:** We included all types of studies (RCT, prospective, and retrospective studies) comparing at least 2 types of IVF protocol (Ultralong, Long, Antagonist, Short protocols) in patients with all stages of endometriosis with or without previous surgeries. **Data Collection and Analysis:** A total of 2667 papers were identified through electronic search and after screening, 13 studies were eligible to be included for data synthesis. The quality of each paper was assessed and scored according to Newcastle-Ottawa Assessment scale. All suitable data were extracted and analysed using Review Manager 5 software. **Results:** We found several studies comparing ultralong vs. long protocol (n= 9), long vs. antagonist (n= 3), ultralong vs. short agonist (n=1). From the meta-analysed data, there are significantly higher CBR in women with ultralong protocol (OR CI 95% 2.23[1.14, 4.38], 773 patients, 8 studies, I²=72%) as reported by the previous meta-analysis. However there is no difference between antagonist and long protocol (OR CI 95% 1.24 (0.75, 2.06) 296 cycles, 3 studies, I²=0%). **Conclusion:** Prolonged pituitary suppression using the GnRH agonists for at a period of at least 3-6 months improved the CPR in patients with endometriosis. However due to the observational nature of some of the included studies, the result of this study is subjected to confounders relating to clinical heterogeneity.

A Review of ART Pregnancy Rate and Live Birth Rate and its Correlation with Woman's Age Factor and Man's Sperm Parameters

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ABSTRACT

Objective: This is a retrospective review of all ART pregnancies in Sunway Fertility Centre over the past three years (2015-2017). Its association of woman's age factor and the sperm parameters was assessed and analysed on the ART pregnancy and live birth rate. **Methods:** All female patients who underwent ART treatment with fresh embryo transfer or frozen embryo transfer were included in this study and categorised into 2 groups (age ≤35 and age >35). Husband semen samples provided during ART treatment were assessed based on the sperm parameters (sperm count and motility) according to the latest criteria (WHO 2010) and categorised into 4 groups (normal, mild sperm problem, moderate sperm problem and severe sperm problem). Intracytoplasmic Sperm Injection (ICSI) with Intracytoplasmic Morphologically Selected Sperm Injection (IMSI) was used for all the ART cases. The total number of couples involved in this study was 246. Patients who did not undergo embryo transfer procedure were excluded. **Results:** The pregnancy rate and live birth rate in women aged ≤35 were significantly higher than women aged > 35, which is 64% versus 38% and 57% versus 29% (P< 0.05). However, there were no significant difference between the four sperm groups on pregnancy rate and live birth rate (P > 0.05). **Conclusion:** The increase in woman's age significantly resulted in proportional reduction of pregnancy rate and live birth rate. Sperm parameters such as sperm count and motility did not have much effect on the ART pregnancy rate and live birth rate.