**Introduction**

Ovarian stimulation during fertility treatment leads to profound maternal physiological changes. Women undergoing in vitro fertilisation (IVF) may be at an increased risk of future cardiovascular morbidity, though little is known about the effects on maternal cardiovascular function. We aim to systematically review whether IVF treatment is associated with acute changes in maternal haemodynamic parameters.

**Study Design**

Search of English language studies identified on Medline and EMBASE database, between 1978, to 2019. **Search terms:** IVF, haemodynamics, ART, cardiovascular. Methodological quality was assessed by using the adapted Critical Appraisal Skills Programme checklist. A meta-analysis was conducted for blood pressure and heart rate on patients undergoing the long GnRH agonist protocol according to Cochrane guidelines. We considered four time points in the IVF cycle, in chronological order: pre-treatment, pituitary down regulation, peak oestradiol and the luteal phase.

**Results - Meta-analysis (3 studies)**

**Heart Rate:** Significant increase from down regulation (D) to peak oestradiol (P) & luteal phase (L). No change between P and L. **Blood Pressure:** Significant decrease in MAP from (D)/(P)to (L). No change between (D) and (P). **Cardiac Function:** not suitable for meta-analysis. Three studies in systematic review reported significant increase in cardiac function/index/heart rate variability from baseline to peak oestradiol in agonist protocols- (antagonist cycle-no change)

**Conclusion**

There are significant changes in maternal haemodynamics, occurring over a matter of days during ovarian stimulation in IVF. However, it remains to be seen if these lead to a propensity for cardiovascular pathology in a subsequent pregnancy or in the long term.