

## Is the cumulative live birth rate following *in vitro* fertilization (IVF) lower with provincial government coverage than prior to coverage?

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**Introduction:** To determine if there is a difference between the cumulative live birth rate per IVF cycle in good prognosis patients before and after IVF provincial coverage.

**Background:** Most studies conclude that the cumulative pregnancy rate depends on embryo quality and quantity, which is directly related to patient's age. In the best-case scenario, the cumulative pregnancy rate reaches 79% when the number of embryos reaches 15. Other studies reported 75% probability of live birth after six cycles of controlled ovarian stimulation and IVF.

**Design of Study:** Retrospective cohort study comparing IVF cycles between January 2008 to December 2009 (before coverage), and between January 2012 to December 2013 (during coverage).

**Methodology:** The study was carried out at a University-affiliated private IVF clinic. 298 good prognosis IVF patients from 2008-2009 and 610 patients from 2012-2013 were included. The cumulative LBR per IVF cycle was the main outcome measure; the secondary outcome measures were the type of protocol used, percentage of ICSI cycles, fertilization rate, proportion of day 3 versus (vs.) day 5 embryo transfers, average number of embryos transferred, average number of frozen embryos, the clinical pregnancy rate and the multiple pregnancies.

**Results:** No statistically significant difference in the cumulative LBR was seen; it was 44.8% in 2008-2009 but 40.3% in 2012-2013 with  $p=0.134$ . The long agonist protocol was used the most during 2008-2009 (75.5% of the cycles) compared to

antagonist protocol in 2012-2013 (77.2%)  $p<0.01$ . There was no difference in the use of ICSI, but the fertilization rate in 2012-2013 (60.9% vs. 65.9%,  $p=0.001$ ). The proportion of day 3 embryos transferred in 2008-2009 (82.2%) and 2012-2013 (43.9%),  $p=0.005$ , and the proportion of day 5 embryos transferred is 3.7% in 2008-2009 but 54.9% in 2012-2013,  $p<0.001$ . The average number of embryos transferred in 2008-2009 was 1.96 vs. 1.08 in 2012-2013. The average number of frozen embryos per cycle was not significantly different. The clinical pregnancy rate was not significantly different (56.8% vs. 54.3%). The multiple pregnancy rates were 19.4% in 2008-2009 and 0.5% in 2012-2013. In good prognosis IVF patients, the cumulative LBR per cycle started was not significantly different after IVF provincial coverage and the move towards eSET on day 3 or day 5. No advantage of transferring multiple embryos in this group of patients, and that transferring one at a time reduces significantly the multiple pregnancy rate and its complications.

**Limitation & Conclusion:** Not all of the patients have had all of their embryos transferred. The design of the provincial coverage influenced the management of the patients to a certain degree. Patients undergoing an IVF cycle will be able to know their CLBR from that cycle.

### Speaker Biography

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