Recurrent Pregnancy Loss—
epidemiology, immunology, treatment and obstetric outcome

Background: Recurrent pregnancy loss (RPL) often defines as ≥3 consecutive miscarriages <20 gestational weeks with prevalence between 0.5% and 2.3%. To our knowledge no study has estimated the incidence of RPL, which might be more informative and clinically relevant than prevalence. RPL is unexplained in about 50% and the medical treatment is controversial. Immunologic imbalance is thought to be one etiological factor.

Aims:
- To determine the incidence of RPL
- To assess the effects of medical treatments on live birth rates in women with unexplained RPL
- To assess the potential immune-modulatory and anti-inflammatory effect of Low-molecular-weight heparin (LMWH) in women with unexplained RPL
- To study the obstetrical outcome of women with a history of RPL

Method and Results:

I. A Swedish retrospective register-based study was conducted from 2003 until 2012. The incidence was calculated in two different risk populations: [1] 53 per 100 000 in women aged 18–42 years, and [2] 650 per 100 000 in women who achieved pregnancy. The incidence of RPL increased by 74 and 58%, respectively, during the study period.

II. Registered diagnoses of RPL were compared with medical records (golden standard) for validation of the RPL diagnosis of the register used in paper I.

III. A systematic review was conducted to assess the effect of acetylsalicylic acid, LMWH, progesterone, intravenous immunoglobulin, corticosteroids and leukocyte immune therapy on live birth rates in women with idiopathic RPL. No significant difference in live birth rate was found for these treatments.

IV. An open-blinded RCT where women with idiopathic RPL was randomized to LMWH or no treatment during pregnancy. Immunological biomarkers were analysed to assess the immunology difference. Preliminary results show a pro-inflammatory response of LMWH.

V. A case-control study with the aim to compare obstetrician outcomes in women with a history of RPL with a control group.
**Conclusion:** Our study suggests that the incidence of RPL increased during the 10-year study period. The literature does not support any specific treatment for idiopathic RPL, except for progesterone if initiated at ovulation.

*Abbreviation: RPL; recurrent pregnancy loss, RCT; randomised clinical trial, LMWH; Low-molecular-weight heparin*

**Published papers:**
