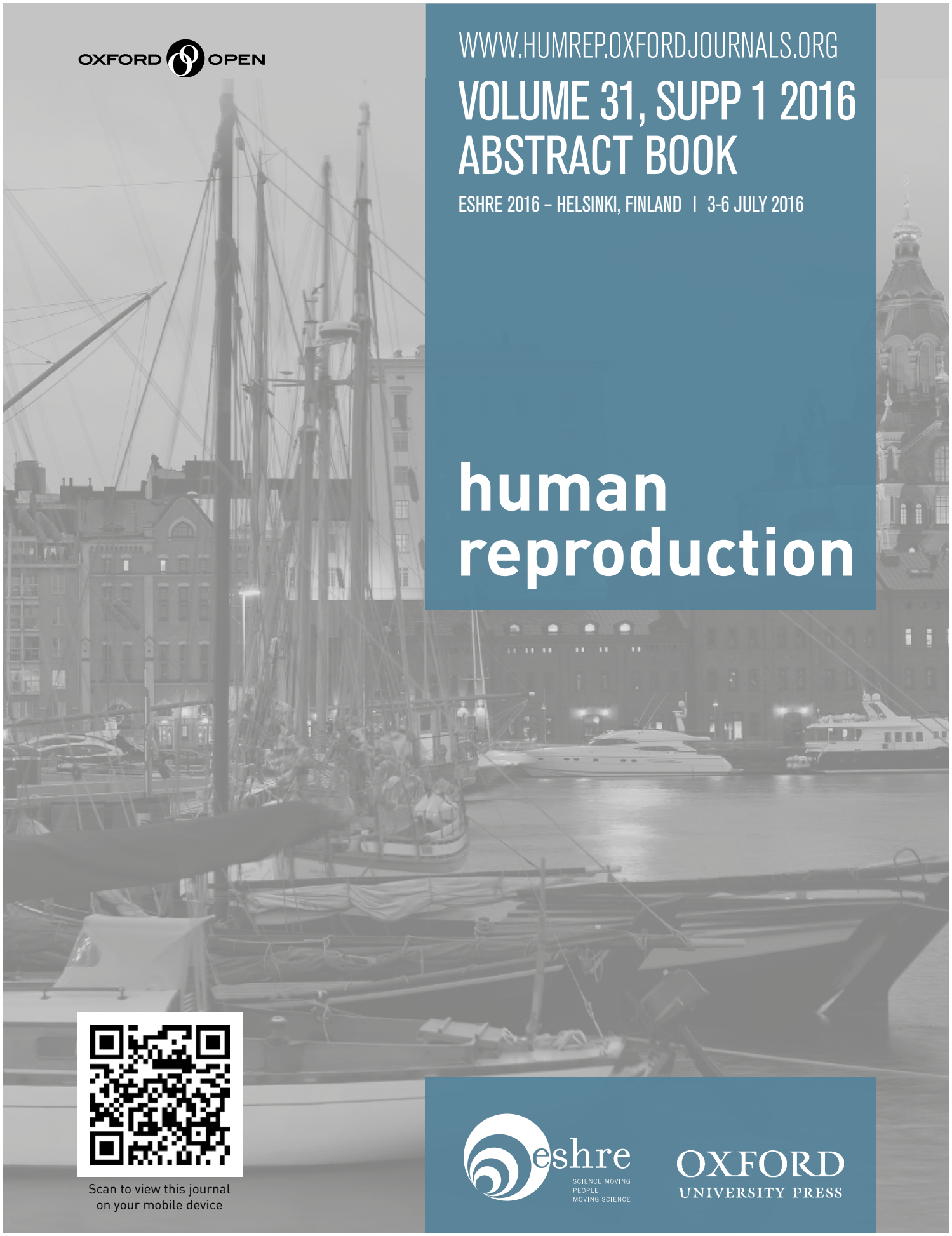

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# ABSTRACT BOOK

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# Abstracts of the 32nd Annual Meeting of the European Society of Human Reproduction and Embryology

**Helsinki**

**Finland**

**3 to 6 July 2016**

# Abstracts

32nd Annual Meeting of the
European Society of
Human Reproduction and Embryology
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The cover of *Human Reproduction* shows histone acetylation in two human germinal vesicle (GV) stage oocytes. The upper panels show an early-stage GV oocyte with a non-surrounding nucleolus stained for (A) chromatin (DAPI; blue) and (B) histone acetylation (anti-H4K12ac; red). Note the regions of intense chromatin staining in some areas, whereas others show no acetylation (C; overlay). The lower panels, of a more developed oocyte with a surrounding nucleus stained for chromatin (D) and histone acetylation (E), show more condensed chromatin than in the early-stage oocyte (above), although the oocyte still has some acetylated chromatin as shown in E and overlay (F). For more details see van den Berg *et al.*, pp. 1181–1190.

**Limitations, reasons for caution:** The study was not designed to analyse the impact of follicle flushing on pregnancy rates. The conclusion that women might not need luteal phase support in NC-IVF is only based on the study parameters but not on pregnancy rates.
**Wider implications of the findings:** NC-IVF is favoured by many women due to lower treatment induced psychological stress and lower costs. The result of the study suggest that luteal phase support is not required in NC-IVF, even if the follicles are flushed, thereby allowing further treatment simplification by avoiding uncomfortable luteal phase support.
**Trial registration number:** KEK-BE 206/12

### P-728 Identification of differentially expressed long non-coding RNAs in follicular granulosa cells from polycystic ovary syndrome patients and controls

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**Study question:** What roles of LncRNAs in pathology of PCOS?
**Summary answer:** There are some differentially expressed LncRNAs between PCOS patients and controls.
**What is known already:** Long non-coding RNAs (lncRNAs) are molecules longer than 200 nucleotides with non-protein coding transcripts. Until now, a number of lncRNAs have been identified. Many lncRNAs have significant impact on transcriptional and translational output and many studied have shown that lncRNAs play a key role in regulating diverse cellular processes, which contain intracellular trafficking, chromatin remodeling, transcription and post-transcriptional processing.
**Study design, size, duration:** PCOS patients in IVF/ICSI were referred from the reproductive medicine center at Ninth Hospital affiliated with Shanghai Jiao Tong University from January 2013 to December 2015.
**Participants/materials, setting, methods:** The follicular granulosa cells used in this study were obtained from patients and controls. Total RNA was extracted by using the AllPrep DNA/RNA/miRNA Universal kit. The fluorescence labeled cRNA targets for the Agilent Human lncRNA 4 × 180 K. KGN cells were transfected either lncRNA mimics or their controls to KGN cells with HiPerFect transfection reagent. The supernatant was measured for concentrations of estradiol with the UniCel DxI 800 immunoassay system.
**Main results and the role of chance:** 63,431 lncRNAs were examined in this study. A total of 1,154 lncRNAs and 853 mRNAs were identified to be significantly altered in 3 pairs of PCOS granulosa cells and controls (fold change > 2; $p < 0.05$). Of these differently expression lncRNAs, 305 lncRNAs were up-regulated and 849 were down-regulated. Out of the down-regulated lncRNAs group, lncRNA CUST_12429 has the greatest degree of down-regulation (fold change = 68.27807); and in the up-regulation group, lncRNA CUST_34147 has the greatest degree of up-regulation (fold change = 0.063102). We validated some of differentially expressed lncRNAs. We then transfected lncRNA mimics and corresponding controls into the KGN cell line. We found that lncRNA CUST_12429 regulated estradiol secretion.
**Limitations, reasons for caution:** Exact mechanism of LncRNAs in PCOS should be explored further in the future. Target genes and pathways should also be explored.
**Wider implications of the findings:** This study identified a number of LncRNAs in granulosal cells and laid a foundation for investigating roles of LncRNAs in pathology of PCOS.
**Trial registration number:** Not required.

### P-729 Impact of polymorphisms of gonadotropins and their receptors on controlled ovarian stimulation: a prospective observational study

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[5]*Aarhus University, The Fertility Clinic, Skive Regional Hospital and Faculty of Health, Skive, Denmark*

**Study question:** Which effect do polymorphisms of gonadotropins and their receptors have on stimulation outcomes in IVF patients co-treated with a GnRHa long down-regulation protocol?
**Summary answer:** Allele C of FSHR-29, LHCGR-291 and FSHR-680 all resulted in a significantly increased cumulative *r*-FSH dose: total number of oocytes or mature oocytes ratio.
**What is known already:** Specific polymorphisms might influence controlled ovarian stimulation in women undergoing IVF/ICSI. Data regarding the possible interactions of these polymorphisms are still scanty, especially as regards LHCG-R polymorphisms.
**Study design, size, duration:** Prospective observational study in 100 normogonadotropic IVF/ICSI patients came from three public IVF Units.
**Participants/materials, setting, methods:** Normogonadotropic Caucasian women fulfilling the following inclusion criteria were enrolled: age 20–34 years; BMI 20–27 kg/m2; basal FSH ≤ 10 IU/l; functional ovaries. Exclusion criteria were: uterine anomalies; endocrine, genetic or immunological disorders; PCOS; history of impaired ovarian response (≤ 4 oocytes retrieved) in at least one IVF/ICSI cycle. Patients underwent a GnRH long down-regulation protocol with a starting dose of 150 IU of recombinant FSH daily. Six polymorphisms were genotyped.
**Main results and the role of chance:** The following polymorphisms were analyzed: FSHR-680 (rs6166); FSHR-min29 (rs1394205); LHCGR intronic (rs4073366); LHCGR-291 (rs 12470652); LHCGR-312 (rs2293275); FSHβ-2623 (rs6169).

Basal FSH levels were significantly lower in homozygotic carriers of FSHR-630 (T/T) than in heterozygotic C/T ($p = 0.023$). Lower basal estradiol levels were seen in homozygotic carriers of FSHR-29 promoter C/C compared to heterozygotic C/T ($p = 0.045$). Basal estradiol levels and number of fertilized and mature oocytes were lower in homozygotic carriers of LHCGR-291 (T/T) compared to heterozygotic C/T ($p = 0.035$ and $p = 0.05$ respectively). The presence of allele C on both FSHR-min29 and LHCGR-291 caused an increased ratio between the cumulative r-FSH consumption and the total number of oocytes as well as mature oocytes (RR: 5.47, CI 95%: 3.13–7.81, $p < 0.001$). This observation was also confirmed when polymorphisms of FSHR-680 were included in the analysis. Specifically, the presence of allele C on these three genes was related to an increased ratio between the cumulative FSH consumption and the total number of oocytes or mature oocytes (RR: 5.44, CI 95%: 3.18–7.71, $p < 0.001$).
**Limitations, reasons for caution:** Although limited by the small size of the population, these findings confirm a possible interaction between multiple polymorphisms in assisted reproductive technology.
**Wider implications of the findings:** These data support the concept that the ovarian response to exogenous FSH seems to be determined by the interaction of specific genetic traits. Moreover, this study shows an involvement of the LHCGR-291 polymorphism in ovarian response to exogenous gonadotropins.
**Trial registration number:** Not applicable.

### P-730 Outcome after non-hCG triggered serum-free IVM in patients with PCOS: a freeze-or-fresh transfer strategy based on number of available embryos

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**Study question:** What is the outcome of IVM using a strategy of fresh blastocyst transfer or freeze-all d3/frozen embryo transfer (FET), depending on the number of available embryos?
**Summary answer:** After non-hCG triggered IVM, a strategy of fresh blastocyst transfer or freeze-all d3/FET results in equivalent cumulative ongoing pregnancy rates (OPR).