JOURNAL SCAN

Clomiphene Citrate or Letrozole for Ovulation Induction in Women with Polycystic Ovarian Syndrome: A Prospective Randomized Trial

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Objective

To compare the effects of letrozole (5 mg) and clomiphene citrate (100 mg) for ovulation induction in women with polycystic ovary syndrome (PCOS).

Design

Prospective randomized trial.

Setting

University teaching hospital and private practice setting.

Patients

The study comprised a total of 438 infertile women (1063 cycles) with PCOS.

Intervention

Patients were randomized to treatment with 5 mg of letrozole daily (218 patients, 545 cycles) or 100 mg of clomiphene citrate daily (220 patients, 518 cycles) for 5 days starting on day 3 of menses. Timed intercourse was advised 24 to 36 hours after hCG injection.

Main Outcome Measure

Number of follicles, serum estradiol, serum progesterone, endometrial thickness, and pregnancy and miscarriage rates.

Results

The mean age, parity, and duration of infertility in both groups were similar. The total number of follicles was statistically significantly greater in the clomiphene citrate group (6.8 _ 0.3 *vs* 4.4 _ 0.4). Endometrial thickness at the time of hCG administration was statistically significantly greater in the CC group (9.2 _ 0.7 mm *vs* 8.1 _ 0.2 mm). The duration to reach a dominant follicle was statistically significantly longer in the letrozole group (12.1_1.3 *vs* 8.8_2.9 days). Ovulation occurred in 365 out of 540 cycles (67.5%) in letrozole group and 371 out of 523 cycles (70.9%) without a statistically significant difference. Levels of serum estradiol and progesterone were statistically significantly higher in the clomiphene citrate group. The pregnancy rate per cycle was 15.1% in the letrozole group and 17.9% in the clomiphene citrate group without statistically difference between the groups.

Conclusion

The results of this study did not show any advantage to the use of letrozole over clomiphene citrate as a first-line treatment for induction of ovulation in women with PCOS (Fertil Steril_ 2009;92:849-52. _2009 by American Society for Reproductive Medicine).

Keywords

Letrozole, clomiphene citrate, PCOS.

Effect of Food Intake during Labor on Obstetric Outcome: Randomized Controlled Trial

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Objective

To investigate the effect of feeding during labor on obstetric and neonatal outcomes.

Design

Prospective randomized controlled trial.

Setting

Birth center in London teaching hospital.

Participants

2426 nulliparous, nondiabetic women at term, with a singleton cephalic presenting fetus and in labor with a cervical dilatation of less than 6 cm.

Intervention

Consumption of a light diet or water during labor.

Main Outcome Measures

The primary outcome measure was spontaneous vaginal delivery rate. Other outcomes measured included duration of labor, need for augmentation of labor, instrumental and cesarean delivery rates, incidence of vomiting, and neonatal outcome.

Results

The spontaneous vaginal delivery rate was the same in both groups (44%; relative risk 0.99,95% confidence interval 0.90 to 1.08). No clinically important differences were found in the duration of labor (geometric mean: eating, 597 min v water, 612 min; ratio of geometric means 0.98, 95% confidence interval 0.93 to 1.03), the cesarean delivery rate (30% *vs* 30%; relative risk 0.99, 0.87 to 1.12), or the incidence of vomiting (35% *vs* 34%; relative risk 1.05, 0.9 to 1.2). Neonatal outcomes were also similar.

Conclusions

Consumption of a light diet during labor did not influence obstetric or neonatal outcomes in participants, nor did it increase the incidence of vomiting. Women who are allowed to eat in labor have similar lengths of labor and operative delivery rates to those allowed water only.

Trial registration: Current Controlled Trials ISRCTN33298015

Impact of Male Obesity on Infertility: A Critical Review of the Current Literature

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Objective

To evaluate the current understanding of the effects and potential mechanisms of obesity on male fertility.

Design

Literature review of articles pertaining to obesity and male infertility.

Result(s)

Recent population-based studies suggest an elevated risk for subfertility among couples in which the male partner is obese and an increased likelihood of abnormal semen parameters among heavier men. Male factor infertility is associated with a higher incidence of obesity in the male partner. Obese men exhibit reduced androgen and SHBG levels accompanied by elevated estrogen levels. Reduced inhibin B levels correlate with degree of obesity and are not accompanied by compensatory increases in FSH. This complexly altered reproductive hormonal profile suggests that endocrine dysregulation in obese men may explain the increased risk of altered semen parameters and infertility. Additional features of male obesity that may contribute to an increased risk for infertility are altered retention and metabolism of environmental toxins, altered lifestyle factors, and increased risks for sexual dysfunction. Neither reversibility of obesity-associated male infertility with weight loss nor effective therapeutic interventions have been studied yet.

Conclusion(s)

The increasing prevalence of obesity calls for greater clinician awareness of its effects on fertility, better understanding of underlying mechanism, and eventually avenues for mitigation or treatment (Fertil Steril® 2008;90:897-904. ©2008 by American Society for Reproductive Medicine).

Keywords

Obesity, male infertility, sperm parameters, oligozoospermia, reproductive hormones, estrogen, testosterone.

Risk of Gestational Diabetes Mellitus in Women with Polycystic Ovary Syndrome: A Systematic Review and a Meta-analysis

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Objective

To evaluate the risk of gestational diabetes mellitus (GDM) in women with polycystic ovary syndrome (PCOS).

Design

Systematic review and meta-analysis of observational studies.

Setting

Tertiary Department of Reproductive Endocrinology.

Patient(s)

Five thousand two hundred ninety-three pregnant women (721 with PCOS and 4,572 controls without PCOS).

Intervention(s)

Literature search in the electronic databases MEDLINE, EMBASE, and CENTRAL, study of the references of all relevant trials or reviews, and manual search of the abstracts from the major meetings in the fields of human reproduction.

Main Outcome Measure(s)

Gestational diabetes mellitus odds ratio.

Result(s)

Women with PCOS demonstrated a significantly higher risk for the development of GDM as compared with women without PCOS [odds ratio 2.89,95% confidence interval (CI) 1.68-4.98], yet with significant statistical heterogeneity (I2 = 59.3%), durable to sensitivity analysis. In the subgroup of cohort studies, it did not (0.89, 95%) CI 0.38-2.06). Metaregression modeling revealed a linear dependence of the outcome on study type and baseline risk (post hoc).

Conclusion(s)

Significant heterogeneity among studies and dependence of the outcome on study type make the higher risk of GDM in women with PCOS a questionable finding. The conduction of properly designed studies should precede any recommendation to pregnant women with PCOS in regard to the risk GDM (Fertil Steril® 2009;92:667-77. ©2009 by American Society for Reproductive Medicine).

Keywords

Polycystic ovary syndrome, gestational diabetes mellitus, pregnancy complications, metaregession, systematic review, meta-analysis.

Vaginal versus Sublingual Misoprostol for Second-trimester Pregnancy Termination and Effect on Doppler Measurements

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Objective

To compare the efficacy of vaginal *vs* sublingual misoprostol for second-trimester pregnancy termination, and to evaluate the effect on the blood flow of the uterine and umbilical arteries.

Methods

Forty-nine patients were randomized to receive either 200 μg of vaginal misoprostol every 6 hours or 200 μg of misoprostol sublingually every 6 hours. Doppler velocimetry studies were assessed immediately before and 60 minutes after the administration of the first dose. Standard descriptive calculations, Mann-Whitney U, Wilcoxon, and χ^2 tests were performed.

Results

The mean interval between induction and onset of active labor, induction and delivery, and the duration of oxytocin administration were significantly shorter in the sublingual misoprostol group. Both routes of administration increased the Doppler indices for the uterine arteries; however, misoprostol via the sublingual route did not affect the umbilical arteries.

Conclusion

Sublingual administration of misoprostol for second-trimester medical abortion results in a higher success rate and does not affect umbilical blood flow (©2009 International Federation of Gynecology and Obstetrics. Published by Elsevier Ireland Ltd).

Keywords

Doppler measurement, second-trimester termination, sublingual misoprostol, vaginal misoprostol.

Expectant Management of Spontaneous First-trimester Miscarriage: Prospective Validation of the '2-week Rule'

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Objectives

To assess uptake and success of expectant management of first-trimester miscarriage for a finite 14-day period, in order to evaluate our '2-week rule' of management.

Methods

This was a prospective observational study evaluating our proposed 2-week rule of expectant management, which is based on the finding that women managed expectantly are most likely to miscarry in the first 14 days and that to wait longer than 2 weeks without intervention does not confer a greater chance of successful resolution. Eligible women diagnosed with first-trimester miscarriage were offered a choice of expectant management or surgical evacuation under general anesthesia. Inclusion criteria for expectant management were: diagnosis of incomplete miscarriage (heterogeneous tissue, with or without a gestational sac, seen on ultrasound in the uterine cavity and distorting the endometrial midline echo), missed miscarriage (crown-rump length (CRL) $\geq$ 6 mm with absent fetal heart activity) or empty sac (anembryonic pregnancy) based on transvaginal ultrasonography. Women with complete miscarriage, missed miscarriage at the nuchal translucency scan, molar pregnancy or miscarriage $\geq$ 3 weeks in duration (missed miscarriage in which the CRL was $\geq$ 3 weeks smaller than the gestational age based on last menstrual period), or with signs of infection or hemodynamic instability were excluded. Expectant management consisted of weekly ultrasonography for 2 weeks. If after 2 weeks resolution was not complete, surgery was advised.

Results

1062 consecutive pregnant women underwent transvaginal ultrasound examination. Of these, 38.6% (410/1062) were diagnosed with miscarriage, of whom 241 (59%) were symptomatic at the time of presentation and 282 were eligible for the study. These were offered expectant management and 80% (227/282) took up this option. 11% (24/227) were lost to follow-up; therefore, complete data were available on 203 women. Overall spontaneous resolution of miscarriage at 2 weeks was observed in 61% (124/203) of women. Rates of spontaneous resolution at 2 weeks according to the type of miscarriage were 71% for incomplete miscarriage, 53% for empty sac and 35% for missed miscarriage. The incidence of unplanned emergency dilatation and curettage due to gynecological infection or hemorrhage was 2.5% (2/203).

Conclusion

Expectant management based on the 2-week rule is a viable and safe option for women with first-trimester miscarriage. Women with an incomplete miscarriage are apparently the most suitable for expectant management (Copyright ©2010 ISUOG. Published by John Wiley & Sons, Ltd).

Keywords

Empty sac, expectant management, incomplete miscarriage, miscarriage, missed miscarriage.