

4th International Conference on

Obstetrics and Gynecology

November 14-15, 2019 | Singapore



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Update on the use of metformin in women with PCOS

To evaluate the effectiveness and safety of metformin in improving reproductive and metabolic outcomes for women with PCOS undergoing ovulation induction. We searched the following databases from inception to January 2017: Cochrane Gynecology and Fertility Group Specialized Register, CENTRAL, MEDLINE, Embase, PsycINFO and CINAHL. We searched registers of ongoing trials and reference lists from relevant studies. We assessed the interventions metformin, clomiphene citrate, metformin plus clomiphene citrate. We compared these with each other, placebo or no treatment. In total, 42 studies (4024 women) were included in the analysis. Our updated review suggests that metformin alone may be beneficial over placebo for live birth, although the evidence quality was low. When metformin was compared with clomiphene citrate, data for live birth were inconclusive, and our findings were limited by lack of evidence. Results differed by body mass index (BMI), emphasizing the importance of stratifying results by BMI. An improvement in clinical pregnancy and ovulation suggests that clomiphene citrate remains preferable to metformin for ovulation induction in obese women with PCOS. An improved clinical pregnancy

and ovulation rate with metformin and clomiphene citrate versus clomiphene citrate alone suggests that combined therapy may be useful although we do not know whether this translates into increased live births. Women taking metformin alone or with combined therapy should be advised that there is no evidence of increased miscarriages, but gastrointestinal side effects are more likely.

Speaker Biography

Thomas Tang graduated from the University of Aberdeen and did most of his specialist training in the Yorkshire region. He was awarded a postgraduate degree of Doctor of Medicine by the University of Leeds in 2007; his research focused on fertility care for women with Polycystic Ovary Syndrome. He became a consultant in 2010 and joined the team in the Regional Fertility Centre, Belfast in 2012, offering a broad range of fertility treatments including ovulation induction and IVF/ICSI, as well as fertility preservation. He is also interested on postgraduate education and is currently an associate editor in the RCOG journal 'The Obstetrician and Gynecologist' as well as an honorary senior lecturer in the University of Leeds.

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