New Study Results May Lead To A New Standard Of Care For In Vitro Fertilization Treatment

- Oral Dydrogesterone has the potential to become new treatment of choice for an estimated 1.5 million women worldwide who undergo IVF treatment each year (1, 2)

ABBOTT PARK, Ill., March 8, 2017 /PRNewswire/ -- New study results published in *Human Reproduction* could pave the way for an additional treatment option for the estimated 1.5 million women worldwide who undergo in vitro fertilization (IVF) treatment each year[1, 2]. In the Lotus I study, which involved more than 1,000 women across 38 international sites, oral dydrogesterone had similar efficacy and tolerability to micronized vaginal progesterone (MVP), which is the current standard of care globally to prepare the uterus lining for pregnancy[3].

IVF is one of several methods of assisted reproduction technology whereby a fertilized embryo is transferred to the woman's uterus[4]. Progesterone or a related hormone, such as dydrogesterone, is used in IVF to prepare the lining of the uterus (luteal phase support) to allow a fertilized egg to implant[5,6].

MVP is the most commonly used method of administering progesterone in IVF centers globally[7], but is associated with side effects, such as irritation and discharge, as well as poor patient acceptance[6].

Lotus I, a Phase III randomized controlled clinical study[8], evaluated the effects of oral dydrogesterone in luteal support in IVF. The findings of the study provide clinical evidence for an oral treatment option. Besides its ease of administration, the Lotus I study concluded that oral dydrogesterone is similarly well-tolerated and efficacious compared to MVP.

"The findings from this study have the potential to have important implications for women undergoing IVF," said Herman Tournaye, M.D., Ph.D., Director of the Center for Reproductive Medicine at Universitair Ziekenhuis Brussel, and lead clinical researcher for the Lotus I study. "We found oral dydrogesterone to be effective, well tolerated and easy to administer – all of which point to it becoming the new preferred treatment option."

In the Lotus I study, oral dydrogesterone achieved similar results to MVP in terms of the presence of fetal heart beats at 12 weeks gestation, representing an ongoing pregnancy. Similar findings also were observed in both treatment groups for the study's secondary objectives of pregnancy and live birth rates.

The results from the Lotus I study add to the body of evidence from smaller IVF studies of the benefits of using oral dydrogesterone for luteal support as part of IVF.

Abbott manufactures oral dydrogesterone for countries outside of the United States; it is not available in the United States.

Lotus I Study Findings
The Lotus I study achieved its primary efficacy endpoint, demonstrating non-inferiority of oral dydrogesterone versus MVP with the presence of fetal heartbeats at 12 weeks of gestation. Results were similar between the full analysis sample (FAS) and per protocol sample (PPS) for all measures of efficacy. In the PPS, the pregnancy rates at 12 weeks gestation were 37.6 percent and 33.1 percent in the oral dydrogesterone and MVP treatment groups, respectively, demonstrating non-inferiority of oral dydrogesterone to MVP8. For the secondary objectives, the Lotus I study demonstrated that pregnancy rate two weeks after embryo transfer and at eight weeks of gestation as well as live birth rates were similar for both treatments.

About the Study
Lotus I was a double-blind, double-dummy, two arm multicenter, international Phase III randomized controlled study conducted across 38 sites in Austria, Belgium, Germany, Finland, Israel, Russia and Spain. The study took place from August 2013 to March 2016 and was performed in accordance with the Declaration of Helsinki and Good Clinical Practice guidelines.

The study enrolled pre-menopausal women undergoing IVF treatment (>18 to <42 years of age with a documented history of infertility who were planning to undergo IVF).

Lotus I participants were randomized to receive either oral dydrogesterone 10 mg or MVP 200 mg three times daily. This treatment to prepare the lining of the uterus (luteal support) was started on the day of oocyte retrieval (egg collection) and continued for up to 12 weeks of gestation.

About Dydrogesterone
Dydrogesterone has been marketed for more than 50 years for conditions related to progesterone insufficiency. The safety and tolerability profile of the drug has been established with an estimated exposure to 94 million patients globally[9, 10].

The use of dydrogesterone is specific to the regulatory approval in each country and includes the treatment of threatened or recurrent miscarriage, as well as luteal phase support in infertility and menstrual disorders, endometriosis and hormone replacement therapy post menopause. The use of dydrogesterone in pregnancy is not indicated in all countries.

Currently, dydrogesterone is not approved in any country for the treatment of luteal phase support in IVF or artificial reproductive technology.

About Abbott
At Abbott (NYSE: ABT), we're committed to helping you live your best possible life through the power of health. For more than 125 years, we've brought new products and technologies to the world -- in nutrition, diagnostics, medical devices and branded generic pharmaceuticals -- that create more possibilities for more people at all stages of life. Today, 94,000 of us are working to help people live not just longer, but better, in the more than 150 countries we serve.

Connect with us at www.abbott.com, on Facebook at www.facebook.com/Abbott and on Twitter @AbbottNews and @AbbottGlobal.

---

1 Dyer S, Chambers GM, de Mouzon J, Nygren KG, Zegers-Hochschild F, Mansour R, Ishihara O, Banker M, Adamson GD. International Committee for Monitoring Assisted Reproductive Technologies world report: Assisted Reproductive Technology 2008, 2009 and 2010. *Hum Reprod* 2016;31:1588–1609.

2 Chambers GM, Hoang VP, Zhu R, Illingworth PJ. A reduction in public funding for fertility treatment – an econometric analysis of access to treatment and savings to government. BMC Health Services Research 2012; 12:142

3 Mesen TB and Young SL. Progesterone and the Luteal Phase. *Obstetrics and Gynecology Clinics of North America* 2015;42(1):135-151.

4 'Factsheet - In vitro fertilization (IVF): what are the risks?' The Patient Education Website of the American Society for Reproductive Medicine http://www.reproductivefacts.org/uploadedFiles/ASRM_Content/Resources/Patient_Resources/Fact_Sheets_and_Info_Booklets/risksofivf.pdf [Accessed 7 February 2017]

5 'Factsheet: Progesterone Supplementation During In Vitro Fertilization (IVF) Cycles' The Patient Education Website of the American Society for Reproductive Medicine http://www.reproductivefacts.org/FACTSHEET_Progesterone_Supplementation_During_IVF_Cycles/ [Accessed 7 February 2017]

6 Chakravarty BN, Shirazee HH, Dam P, et al. Oral dydrogesterone versus intravaginal micronised progesterone as luteal phase support in assisted reproductive technology (ART) cycles: results of a randomised study. *J Steroid Biochem Mol Biol* 2005;97(5):416–420

7 Vaisbuch E, Leong M, Shoham Z. Progesterone support in IVF: is evidence-based medicine translated to clinical practice? A worldwide web-based survey. *Reprod Biomed Online* 2012;25:139–145.

8 Tournaye H, Sukhikh G, Kahler E, and Griesinger G. A Phase III randomized controlled trial comparing the efficacy, safety and tolerability of oral dydrogesterone versus micronized vaginal progesterone for luteal support in *in vitro* fertilization. *Human Reproduction*. 2017

9 Queisser-Luft A. Dydrogesterone use during pregnancy: overview of birth defects reported since 1977. *Early Hum Dev* 2009;85(6):375–377

10 Mirza FG, Patki A, Pexman-Fieth C. Dydrogesterone use in early pregnancy. *Gynecol Endocrinol* 2016;32(2):97–106

SOURCE Abbott

For further information: Abbott Media: Lindsy Delco, +41 (0) 61 487 01 50, Lindsy.Delco@abbott.com; Abbott Financial: Jeffrey Byrne, +1 224-668-8808, Jeffrey.Byrne@Abbott.com|

Additional assets available online:

Photos (1)

Documents (1)