

## 2<sup>nd</sup> International Summit on **Clinical Pharmacy**

December 02-03, 2014 DoubleTree by Hilton Hotel San Francisco Airport, USA

### The dual opposite effects of cilostazol on fertility: An animal model

Ahmed M Taiyeb

Baylor College of Medicine, USA

The current contraceptive pills are associated with cardiovascular and cancer diseases because of their steroidal nature. While scientific research has developed many antibiotics and antihypertensive drugs using different pharmacological approaches, the pharmacological development of contraceptive medications that is not steroidal in nature has yet to be achieved. Cilostazol (CLZ) is a phosphodiesterase IIIA inhibitor that is prescribed for patients with intermittent claudication (Pletal®). Using the mouse animal model, we found that CLZ is capable of inhibiting oocyte maturation *in vitro*, *in vivo*, and to block pregnancy in naturally cycling mice ( $P < 0.0001$ ). CLZ results in ovulation of immature oocytes that cannot be fertilized. This contraceptive approach is different from that of steroidal contraceptives, which impairs follicular development and blocks ovulation. We then allowed for ovulated immature oocytes to mature *in vitro* or in the oviducts. We found these oocytes are of advanced cytoplasmic and nuclear maturation and higher fertilization rates when compared with ovulated mature oocytes from animals that were not treated with CLZ ( $P < 0.001$ ). CLZ also improved the survival rates of offspring ( $P < 0.0001$ ). During this study, we formulated the principle that CLZ is not only able to block oocyte maturation and pregnancy but conversely can be utilized to produce oocytes with high developmental levels and fertilization rates. From the contraceptive point of view, CLZ merits further evaluation as a potential non-steroidal contraceptive. From the higher developmental and fertilization point of view, administration of CLZ in superovulation protocols merits continued investigation to address the potential inclusion of CLZ in infertility treatment.

#### Biography

Ahmed M Taiyeb graduated from the College of Pharmacy/University of Baghdad with an honor degree. During his residency program, he extensively interacted with many scientists and clinicians to study infertility, recurrent abortion, immunological disorder, and hormonal imbalance. He received the medal of IVF Institute for Embryo Research and Infertility Treatment for his recognized contribution at the University of Baghdad. He earned his PhD degree in Reproductive Pharmacology and Medicine from Texas A&M University. He investigated several non-steroidal contraceptive agents using rodents, pigs, and primate animal models for humans. He is currently a Research Associate at Baylor College of Medicine.

[amtaiyeb@aggienetwork.com](mailto:amtaiyeb@aggienetwork.com)