

Polycystic Ovary Syndrome: Implication for Drug Metabolism on Assisted Reproductive Techniques-A Literature Review.

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ABSTRACT

Polycystic ovary syndrome (PCOS) affects 6-10% of women and could be considered one of the most common endocrine alterations in women of reproductive age. The syndrome is characterized by several hormonal and metabolic alterations, including insulin resistance and hyperandrogenism, which play a severe detrimental role in the patient's fertility. We aimed to offer an overview about drug metabolism in the PCOS population. Nevertheless, we did not find any study that directly compared drug metabolism between PCOS and healthy women. We therefore decided to summarize briefly how hormonal and insulin sensitizer drugs act differently in healthy and PCOS women, who show altered steroidogenesis by theca cells and metabolic imbalance, focusing especially on assisted reproductive techniques. To date, data about drug metabolism in the PCOS population appears to be extremely limited. This important gap could have significant implications for therapeutic approaches and future perspectives: the dosage of drugs commonly used for the treatment of PCOS women should be tailored according to each patient's characteristics; we should implement new clinical trials in order to identify the best pharmacologic strategy for PCOS patients undergoing in vitro fertilization (IVF); it would be advisable to create an international expert panel to investigate the drug metabolism in the PCOS population.