



Letter to Editor

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Combating ovarian hyperstimulation syndrome in polycystic ovary syndrome: Lessons from clinical case reports and research

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Dear Editor,

We read with great interest the recent case report and review by Khalife *et al* on the occurrence of ovarian hyperstimulation syndrome (OHSS) following GnRH agonist triggering and a freeze-all strategy in a patient undergoing assisted reproductive technology (ART)[1]. This report provides valuable insights into the management of OHSS, particularly in the context of polycystic ovary syndrome (PCOS), a prevalent condition in reproductive medicine. We would like to relate these findings to our previously published work on the impact of PCOS on embryo quality and intracytoplasmic sperm injection (ICSI) outcomes in Iraqi women[2], highlighting the common significance of the topic and future clinical approaches.

OHSS is a potentially life-threatening complication of controlled ovarian stimulation characterized by exaggerated ovarian responses and third space fluid sequestration. Despite the adoption of safer stimulation protocols, as detailed by Khalife *et al*, sporadic cases of severe OHSS still occur, underscoring the need for vigilant patient selection and management strategies[1]. Their case report emphasizes the importance of a segmented approach with GnRH agonist triggering and freeze-all policies, which, although effective in reducing OHSS incidence, still pose risks in high responders.

In our study on Iraqi women with PCOS undergoing ICSI, we found that while PCOS does not necessarily impair embryo quality, it significantly affects pregnancy rates due to a multitude of factors beyond oocyte quality[2]. The intricate hormonal imbalances, metabolic disturbances, and inflammatory conditions associated with PCOS contribute to this discrepancy. Our findings parallel those of Khalife *et al*, who noted that OHSS can still manifest despite using GnRH agonists and avoiding hCG support, suggesting that intrinsic patient factors play a crucial role in ART outcomes.

Both studies underscore the complexity of managing PCOS in the context of ART. The significant reduction in pregnancy outcomes associated with PCOS, as observed in our cohort, and the occurrence

of OHSS despite preventive measures, as reported by Khalife *et al*, highlight the need for personalized treatment protocols. Future research should focus on refining predictive markers for OHSS and pregnancy outcomes in PCOS patients. This includes exploring the roles of anti-Müllerian hormone (AMH) levels, follicular dynamics, and patient-specific responses to stimulation protocols[3].

Clinically, the integration of advanced diagnostic tools and personalized medicine approaches could enhance ART outcomes. For instance, real-time monitoring of ovarian response and adjusting stimulation protocols accordingly could mitigate OHSS risks while optimizing embryo quality[4]. Additionally, investigating the molecular mechanisms underlying PCOS and OHSS could unveil new therapeutic targets, paving the way for novel interventions that address the root causes of these conditions.

In conclusion, the management of PCOS and OHSS in ART requires a multifaceted approach that considers patient-specific factors and leverages advanced diagnostic and therapeutic strategies[5]. Our findings, in conjunction with those of Khalife *et al*, advocate for continued research and clinical innovation to improve outcomes for women with PCOS undergoing ART. We commend the authors for their contribution to this important field and look forward to future advancements in the clinical management of PCOS and OHSS.

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Authors' contributions

The main frame of the Letter was written by Dr Pallav Sengupta and Dr Sulagna Dutta. All the authors have conducted editing, framing, reviewing and referencing of the manuscript. All the authors have read and agreed to the published version of the manuscript.

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