



# Can Ondansetron be an Alternative to Cabergoline for Preventing Ovarian Hyperstimulation Syndrome?

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Ovarian hyperstimulation syndrome (OHSS) is a serious iatrogenic complication of infertility treatments, characterized by an increased capillary permeability due to human chorionic gonadotropin stimulated secretion of vasoactive substances from the ovaries. In the development of OHSS, various agents including vascular endothelial growth factor (VEGF) have been implicated (1).

Increased vascular permeability resulting from vascular endothelial growth factor receptor-2 (VEGFR-2) activation by VEGF is an important step in the development of OHSS (2). Although no specific treatment of OHSS exists, when it is administered prophylactically, cabergoline which acts as an antagonist for VEGF-VEGF2 receptor and agonist for dopamine receptor 2, reduces the risk and severity of OHSS without any adverse effect on the maturation of oocyte and fertilization (3, 4).

A neurotransmitter, serotonin, is considered to have a role in the process of new blood vessel formation and in endothelial cell signaling. It has been reported to have some effects similar to those of VEGF (5). A selective antagonist for serotonin 5-HT<sub>3</sub> receptor, ondansetron which is widely used to treat nausea and vomiting, showed a similar efficacy to cabergoline in preventing OHSS in an experimental rat study from our clinic, recently (6).

Based on this experimental finding, further clinical studies comparing the results of ondansetron with those of cabergoline to prevent OHSS are warranted, and it would be interesting to see whether ondansetron might be used as an alternative to cabergoline.

## Ethical Issues

Not applicable.

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## Conflict of Interests

The authors have no conflicts of interest to disclose.

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