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Associate Editor

Vascular endothelial growth factor—mediator of PHSS?

To the Editor:

The December 2002 issue of *Fertility and Sterility* contains three papers on the ovarian hyperstimulation syndrome (OHSS), including a commentary by Dr. Meldrum (1). Dr. Meldrum summarizes his paper by stating that “we can . . . move on to developing new ways to prevent and treat this dangerous condition.” Undoubtedly, the fertility community is still plagued by this complication of ovarian stimulation. This is unfortunate, since the answer was published 15 years ago (2)—triggering ovulation with GnRH agonists instead of hCG.

Further data have been published since then (3–5) that clearly delineate this approach as a “winning horse,” with practically no failures in terms of OHSS prevention, even in a very high risk situation.

I urge the fertility community in general and ASRM in particular, to initiate a prospective randomized study that will lend further scientific support to this approach.

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Reply of the Author:

Dr. Kol is absolutely correct that use of a GnRH agonist to trigger ovulation instead of hCG is very helpful to avoid the ovarian hyperstimulation syndrome (OHSS), since prolonged

ovarian stimulation by hCG is avoided. Unfortunately, this is not an option during pituitary desensitization, but it can be applied to patients taking GnRH antagonists. All of the agonists are effective. In a recent abstract, two 1.0-mg doses of leuprolide acetate given 12 hours apart yielded equivalent outcomes in women receiving ganirelix for IVF, compared with 10,000 U of hCG (1). We reported the use of a single 1.0-mg dose of leuprolide acetate with excellent effect in 91 cycles of ovarian stimulation without GnRH agonist (2) and also suggested that a large prospective randomized study be done.

As pointed out in my editorial, giving only LH might be theoretically better for avoiding OHSS, but this may not turn out to be financially feasible because of the large dose required. In addition, the FSH surge is physiologic and may have unforeseen benefits for the oocyte.

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January 23, 2003

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Editorial Commentary

Vascular endothelial growth factor—mediator of OHSS?

The interesting therapeutic option from Dr. Kol is directed at a series of articles implicating vascular endothelial growth factor (VEGF) as the mediator of the ovarian hyperstimulation syndrome (OHSS). The series is capped by a scholarly commentary from Dr. David Meldrum, who has been both a participant and observer in this area of investigation (1). Dr. Meldrum is optimistic that this new information on the pathophysiology of OHSS will open the way to better treatment options. His comments are timely. The well-known group of investigators from Spain led by Antonio Pellicer and Carlos Simon have reversed the symptoms of OHSS in Wistar rats by blocking the VEGF receptor-2. In their well-referenced report, tissue-specific expression patterns for VEGF isoforms and vascular permeability patterns were analyzed in hyperstimulated animals (2). A series of in