Ovarian artery resistance index as a marker of pituitary suppression

Dear Sir,

We read with great interest the paper by Dada and colleagues (Dada et al., 2001). They conclude that the Doppler resistance indices of the ovarian arteries, and in particular the resistance index (RI), were satisfactory predictors of pituitary suppression during GnRH treatment.

Doppler resistance indices, and especially the RI, may not have as powerful an association with pituitary suppression as the authors believe. The RI becomes 1.00, and the pulsatility index (PI) and time averaged maximum velocity (TAMX) become less predictive of blood flow volume, when the Doppler waveform velocity cannot be measured continuously throughout the cardiac cycle (Dickey, 1997). In the figure that the authors provide as an example of ovarian artery waveforms, velocity was not measurable between the end of systole and the beginning of diastole. Goswamy and Steptoe were the first to describe this particular waveform pattern as abnormal and associated with poor perfusion (Goswamy and Steptoe, 1988).

We would be interested to know the number of cases in which continuous blood flow velocity could not be demonstrated in either or both ovarian arteries before and after pituitary suppression. An abnormal waveform pattern, as originally described by Goswamy and Steptoe, is simpler to measure, may demonstrate a closer association with estradiol concentration, and may prove to be a more sensitive indication of pituitary suppression than the RI or other resistance indices.

References


Richard P. Dickey¹ and Roman Pyrzak
Fertility Institute of New Orleans,
6020 Bullard Avenue,
New Orleans, Louisiana 70128, USA

¹To whom correspondence should be addressed at:
E-mail: info@fertilityinstitute.com