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LETTER

Aspirin to improve IVF unexplained implantation rates: time for an individualized approach

To the Editor

The article by Akhtar et al. (2013) is the most recent in a series of relevant studies examining the effect of aspirin use on the outcome of embryo transfer after IVF in women with a history of at least one unexplained failure. Most of these reports, including the aforementioned one, did not detect any statistically significant benefit (Clark, 2013).

Two main methodological issues that arise in these studies, apart from insufficient size of groups included, are the multiplicity of possible divergence pathogenetic mechanisms leading to currently 'unexplained' IVF—embryo transfer failure and the variation in platelet response to aspirin among treated individuals (Hovens et al., 2007).

In the design of such a clinical study, researchers should confront two key questions: (i) Which is the subgroup of women expected to benefit from aspirin use? Women with inherited platelet thrombophilia, for example those who are carriers of genetic heterogeneity of platelet glycoprotein Ia (GpIa-C807T) and IIIa (GpIIIa-PlA1/PlA2), are at increased risk of implantation failure and could be considered eligible for antiplatelet treatment with aspirin (Ivanov et al., 2012); and (ii) Will these patients eventually respond to aspirin? Pre-therapeutic evaluation with laboratory tests (such as platelet function analyser, PFA-100 with a collagen/epinephrine cartridge) is important for identifying the subgroup of women most likely to respond to aspirin, and determining effective dose (Snoep et al., 2007; Reny et al., 2008).

The key message from these studies is that not all patients with unexplained implantation failure may benefit from aspirin (or heparin) use. An individualized approach to antiplatelet therapy based on pharmacogenetic profile may maximize the antithrombotic effect and lead to a clinically obvious favourable effect.

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