

Meta-analysis of recombinant and urinary FSH

Dear Sir,

The recent systematic review (Daya and Gunby, 1999) which compared recombinant with urinary FSH for ovarian stimulation in assisted reproduction is methodologically sound, with a clear conclusion.

The underlying assumption, however, for each controlled randomized trial included is that the only difference between the groups was the use of either recombinant or urinary FSH. These trials did not take into account eventual differences in the activity of FSH per ampoule. This can best be illustrated with an example. Consider that ampoules of recombinant FSH would contain a 10% higher activity than ampoules with

urinary FSH, the conclusion that all effects observed in the meta-analysis are the consequence of using ampoules with 10% higher activity, would be equally as valid as to conclude that the differences observed were due to the type of FSH used.

A thorough discussion of the biological activity of FSH, taking into account heterogeneity in sialic acid content and half lives, and bioavailability will not be attempted since fundamentally it is not relevant for the message of this letter. Indeed, while appreciating the meticulous work of the meta-analysis performed, together with the importance of randomized controlled trials and rigorous statistical analysis, we want to draw attention to the fact that the underlying assumption that the only difference between the treatment groups is the type of FSH used, might not be correct.

The known difficulties of defining exactly biological activities of FSH, will make it very hard to conclude that biological activities in both ampoules of urinary and recombinant FSH are indeed identical. Until that day, we must remain prudent since the differences in IVF results observed are not necessarily the consequence of the types of FSH used. They could be due to the fact that with the actually prevailing stimulation protocols, a different (slightly higher?) dose per ampoule, could lead to better results.

References

Daya S. and Gunby J. (1999) Recombinant versus urinary FSH for ovarian stimulation in assisted reproduction. *Hum. Reprod.*, **14**, 2207–2215

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