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CORRECTION

Correction to: Dehydroepiandrosterone sulphate (DHEAS) concentrations stringently regulate fertilization, embryo development and IVF outcomes: are we looking at a potentially compelling 'oocyte-related factor' in oocyte activation?

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Abstract

Purpose Erratic oocyte-activation affects fertilization and embryo development. Dehydro-epiandrosterone sulphate (DHEAS) is present in theca/cumulus-granulosa cells, regulates the same calcium-pumps that cause calcium-oscillations in mice and its levels are altered in women with no or low fertilization rates. Yet no study has explored correlation of DHEAS with oocyte-activation. We proposed to implicate DHEAS as an oocyte-related factor in oocyte-activation by demonstrating that rectification of deviated (both lower/and higher than normal) DHEAS concentrations to normal post-treatment improves fertilization, embryo development rates.
Method Prospective Closed-Cohort. Recruited $n = 750$ (150 women/subgroup) in previously classified Low(A), Average/Control(B), High(C) D3-serum DHEAS groups. 50% women in both A and C groups received 3-months exposure to oral DHEAS and Metformin respectively. Also measured Follicular-fluid DHEAS levels. Compared embryologic, clinical outcomes: DHEAS untreated (A1) vs. treated (A2); metformin untreated (C1) vs. treated (C2) and A1/A2/C1/C2 against normal-control-B group. Also compared serum vs. FF-group results.
Results Significantly improved embryologic, clinical parameters in treated A2/C2 compared to untreated A1/C1 subgroups respectively. Post-treated improved parameters in A2/C2 were comparable with, whereas untreated A1/C1 sub-groups had significantly lower values than, normal-control B-group. Parameters differed significantly between Low, Medium, High FF-DHEAS groups. Results in serum vs. FF: A1 vs. LowFF, C1 vs. HighFF and A2/C2/B vs. MediumFF were comparable. Odds of fertilization, live-births increased in post-treatment A2/C2 subgroups. Fertilization rates strongly correlated with FF-DHEAS.
Conclusion Rectification of deviated DHEAS levels post-treatment significantly improves outcomes, comparable with those exhibited by normal-control DHEAS thresholds. DHEAS is the most promising endogenous oocyte-related factor influencing embryologic, clinical IVF outcomes possibly by affecting oocyte-activation.

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The abstract in original article unfortunately was not included.

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