Implications on IVF patient care of discarding oocytes affected by smooth endoplasmic reticulum aggregates as recommended by the Alpha/ESHRE consensus

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Received: 18 September 2015 / Accepted: 23 September 2015 / Published online: 9 October 2015
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The study conducted by Paffoni and colleagues in this issue of JARG discusses an important issue. Indeed, in 2011, the Alpha/ESHRE consensus [1] recommended discarding SERa+ oocytes in order to prevent adverse neonatal outcomes. The authors describe here though, how applying the consensus might have a negative impact on the outcome of an IVF cycle. Patients with a SERa+ cycle with few oocytes at retrieval (less than six) were shown to be at a significantly higher risk of a transfer cancellation compared to matched controls. The aim of IVF is obviously to help a couple conceive a healthy child. In view of the fact that SERa+ cycles have shown to be recurrent in around 40 % of cycles [2], patients with a cycle presenting SERa and few oocytes at retrieval might nevertheless opt for the transfer of an embryo originating from a SERa+ oocyte in order to avoid transfer cancellation or more so to conceive with their own gametes. Recent data do suggest that healthy babies can originate from affected oocytes [2, 3]. Moreover, patients having difficulties coping with the IVF procedure due to stress, burden of schedules or other factors might find a transfer cancellation extremely discouraging. This in turn could enhance patient drop out.

In this study, 20 % oocytes were discarded due to the presence of SERa. The attitude of IVF centres towards this dysmorphism was shown in a survey [4] recently published in JARG to be highly heterogeneous. A minority of centres scrupulously follow the consensus recommendation, whilst others avoid transfers when possible, do not take into account this dysmorphism or transfer-affected embryos without data

recording. Oocyte wastage if not clearly justified is certainly an issue; on the other hand, the transfer of embryos originating from affected oocytes without neonatal follow-up is also worrisome.

In the second part of their study, Paffoni and colleagues confirm recent and reassuring data for SERa+ cycles in terms of neonatal outcomes [2]. One should bear in mind that initially, the consensus recommendation was based mainly on one case of a Beckwith Wiedemann syndrome after the transfer of a non-affected embryo originating from a cycle presenting SERa [2]. Indeed, sibling-unaffected oocytes in the same cycle, where smaller aggregates not visible by light microscopy are involved, are also thought to be pathological. Accumulation of healthy births from SERa+ cycles and oocytes will help determine whether the recommendation of the consensus is still valid. Further research is equally necessary in order to understand the origin of this anomaly as well as the impact of aggregates of different sizes and frequencies on oocyte physiology and clinical results. Patients for example, with a majority of oocytes affected in all of their cycles, might constitute a poorer IVF prognostic subgroup with a higher risk of malformation [2]. This could be due to genetic factors and patients should therefore be counseled accordingly.

References

1. Alpha Scientists in Reproductive Medicine and ESHRE Special Interest Group of Embryology. The Istanbul consensus workshop on embryo assessment: proceedings of an expert meeting. Hum Reprod. 2011;26(6):1270–83.
2. Shaw-Jackson C, Van Beirs N, Thomas AL, Rozenberg S, Autin C. Can healthy babies originate from oocytes with Smooth Endoplasmic Reticulum aggregates? A systematic mini-review. Hum Reprod. 2014;29:1380–6.

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3. Hattori H, Nakamura Y, Nakajo Y, Araki Y, Kyono K. Deliveries of babies with normal health derived from oocytes with smooth endoplasmic reticulum clusters. *J Assist Reprod Genet.* 2014;31(11):1461–7.
4. Van Beirs N, Shaw-Jackson C, Rozenberg S, Autin C. Policy of IVF centres towards oocytes affected by smooth endoplasmic reticulum aggregates: a multicentre survey study. *J Assist Reprod Genet.* 2015;32(6):945–50.