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## A study on the impact of presence of Smooth endoplasmic reticulum aggregates (SERa) in oocyte on fertilisation rate after ICSI

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A study on the impact of presence of Smooth endoplasmic reticulum aggregates (SERa) in oocyte on fertilisation rate after ICSI

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**Background and Objective:** The aim of stimulation during IVF/ICSI is multifollicular development. The response is assessed by the number of M2 oocytes. These M2 oocytes can develop SER aggregates in them. The mechanism of occurrence and its impact is poorly understood. Present study is to know the impact of presence of SERa on fertilisation of sibling oocytes during ICSI

**Materials and methods:** A retrospective study conducted at a tertiary level infertility centre from January 2019 to March 2020. The SERa-positive cycles had at least one SERa oocyte in the oocyte cohort. The SERa-negative cycles had morphologically unaffected oocytes. A total of 151 SERa-positive and 30 SERa-negative cycles were analysed from 180 women. Stimulation data, embryological, clinical and neonatal data was collected.

**Results:** The incidence of SERa oocytes is 3.06% (n=52) out of total 1695 M2 oocytes from 181 cycles. There was no statistical difference for age, Body Mass Index, days of stimulation and ovarian reserve in terms of antral follicle count in between the two groups. There was no difference in fertilisation rate (p=0.74) in between the two groups. On follow up, no difference was observed in clinical pregnancy rate (p=0.19). However the live birth rate is 39.2% and 33% in SERa positive and negative groups respectively (p=0.05)

**Conclusion:** Clinical as well as stimulation parameters, embryological outcome were similar in both groups. The presence of SERa could affect the reproductive outcome in terms of livebirth rates in the sibling oocytes.

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