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Letter Regarding AMH and Repetitive Oocyte Donation

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The data that Bukulmez et al. present on increases in AMH with each oocyte donation cycle (Figure 2) is unexpected and provocative (1). The increase appeared to be most pronounced when donation cycles occurred in rapid succession, as demonstrated most convincingly in Group 6. The increase could be due to FSH stimulation of preantral and early antral follicles, the follicular stages that produce the most AMH (2). Though FSH is not thought to drive follicular development at these stages, these follicles have a vascular supply and FSH is thought to synergize their growth (2). However, if stimulation of preantral and early antral follicles was the only effect of FSH treatment, one would expect the AMH to increase for only one or two donation cycles (the combined time-span that follicles spend in these stages) and then level off. Given that AMH continues to increase across six donation cycles over a period of nearly 18 months, suggests that follicles from earlier stages are also affected, possibly even accelerating the rate at which resting follicles are activated. If the activation persisted, ovarian reserve might be negatively impacted.

Regulation of resting follicle activation is not understood, and human data on primary, preantral, and early antral follicle development is limited. Data from egg donors might give hints about these processes and the role of FSH. Monitoring the degree of increase in AMH in relation to the time interval between donation cycles could be informative. In addition, since a donor's AMH levels would be expected to eventually decline to baseline after the final FSH treatment, monitoring AMH changes after treatment ends would be of interest.

The tendency for the pregnancy rate to decline from 61% to 45% between donation cycles 1 and 7 (Table 1), though not statistically significant, may be a concern. Could possible stimulatory effects of FSH treatment on early follicle growth have adverse effects on the oocytes within?

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