

CUMULATIVE LIVE BIRTH RATES IN IVF CYCLES ACCORDING TO SERUM ANTIMULLERIAN HORMONE

Kim, Se Jeong; Kim, Seul Ki; Kim, Seok Hyun; Jee, Byung Chul

Serum antimullerian hormone (AMH) as a predictor of in vitro fertilization (IVF) pregnancy outcomes has been conflicting. Moreover, there is insufficient data about the association of AMH with the cumulative live birth rates (CLBR). The current study aimed to evaluate the CLBR following consecutive IVF treatments according to serum AMH. From August 2013 to July 2016, women who underwent the first cycle of IVF with recorded serum AMH were included. We retrospectively investigated whether the live births occurred from the consecutive IVF treatment until December 2017. The CLBR was calculated with the number of embryo transfer cycles, which included both fresh and frozen embryo transfer cycles, as a variable. We used optimal and conservative assumption methods for dropout patients. Patients were divided into three groups according to the serum AMH in the first cycle of IVF (Group1 AMH ≤ 1.0 ng/mL, Group2 $1.0 < \text{AMH} \leq 2.0$ ng/mL, Group3 > 2.0 ng/mL). In the group 1 (N=24), CLBR following 1 and 2 cycles were 4.2% and 12.9% in optimal estimation. And CLBR following 1 and 2 cycles were 15.4% and 43.6% in the group 2 (N=26). There were no additional pregnancies in further cycles in group 1 and 2. In the group3 (N=65), CLBR following 1,2,3,4 and 5 cycles in optimal estimation were 26.2%, 50.1%, 55.6%, 66.4%, and 83.9%. After 5 cycles, overall CLBR in conservative estimation was 8.3%, 26.9%, and 49.2%, in group 1,2, and 3, respectively. Using Kaplan-Meier analysis, CLBR of 1 year from the first IVF cycle was 5.6%, 22.8%, and 58.7% in group 1,2, and 3, respectively (log-rank test, $p=0.002$). The CLBR was significantly higher with serum AMH > 1.0 ng/mL compared with AMH ≤ 1.0 ng/mL. These findings suggest that serum AMH is a significant factor affecting the CLBR.