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SURGICAL AND MEDICAL MANAGEMENT OF EARLY PREGNANCY FAILURE (EPF): REPRODUCTIVE POTENTIAL IN SUBSEQUENT SINGLE EUPLOID EMBRYO TRANSFER (SEET) CYCLES

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OBJECTIVE:

Treatment options for EPF include dilation and curettage (D&C), misoprostol, or expectant management, with both surgical and medical options accepted in patients undergoing in vitro fertilization (IVF). It is known that endometrial thickness (ETh) <7mm is associated with poor IVF outcomes (1). However, current data on ETh after D&C vs misoprostol conflicts (2). Few studies on EPF management have evaluated reproductive potential in subsequent IVF cycles. This study compares subsequent SEET outcomes in patients who underwent management of EPF.

MATERIALS AND METHODS:

This single-center study included all autologous programmed SEET cycles that resulted in EPF and were treated with D&C or misoprostol, followed by a programmed SEET cycle, from January 2016 to December 2023. EPF was defined as loss after ultrasound presence of a gestational sac. Patients were excluded if they were expectantly managed for >7 days prior to treatment, if EPF occurred after12 weeks, or if a prior EPF was treated with D&C or misoprostol. Primary outcome was ETh at progesterone initiation in the following cycle. Secondary outcomes included days to negative beta hCG after treatment, days from EPF to next cycle start, maximum ETh in the next cycle, and subsequent SEET outcome. Wilcoxon rank, Student's t-test, and chi-square were used for statistics with $p<0.05$ considered significant; logistic regression was used to calculate odds ratios and adjust for confounders.

RESULTS:

190 paired EPF-subsequent SEET cycles were included. 108 patients were treated with D&C and 82with misoprostol. Baseline demographics among groups were similar. There was an increased number of days between EPF treatment and negative beta hCG in the D&C compared to misoprostol group (median 42 vs 35 days, $p<0.01$), and between EPF and next cycle start

(median88.5 vs 70 days, p<0.01). Misoprostol patients were more likely to undergo secondary therapy due to treatment failure (18.3% vs 4.6%, p<0.01). In the following cycle, there were no differences in ETh at progesterone start or maximum ETh among D&C vs misoprostol groups (medians 9.0, 10.0mm vs9.0, 10.0mm, p>0.16). In univariate analysis, there were no significant differences in subsequent SEET outcomes, except for significantly higher EPF rate in the D&C group (15.7% vs 4.9%, p=0.02); ongoing pregnancy/live birth rate was similar (40.7% vs 48.8%, p=0.27). After adjusting for confounders, patients treated with D&C continued to have higher odds of EPF compared to those treated with misoprostol (aOR 3.6, 95% CI 1.1-11.5), though no difference in odds of live birth.

CONCLUSIONS:

After initial SEET, there was prolonged time to negative beta hCG and delay in starting subsequent cycle in patients treated with D&C, though no difference in ETh was demonstrated. Compared to misoprostol patients, D&C patients had significantly higher odds of recurrent EPF in the following cycle, though no difference in chance of live birth.

IMPACT STATEMENT:

Patients can be reassured that regardless of surgical or medical management of EPF, ETh is expected to remain similar in the subsequent SEET cycle with no difference in chance of live birth; however, patients opting for D&C may experience an increased incidence of subsequent EPF.

REFERENCES:

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