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How common is bleeding in early pregnancy after assisted reproductive technology (ART)? Does it affect the reproductive outcome?

Prof. Ibrahim Mahrous & Dr. Mohamed El Sherbiny

What is known already?

Today the number of children born after assisted reproduction technology (ART) has exceeded 10 million worldwide, and delivery rates steadily rise and comprise up to 7.9% of the birth cohorts in Europe and up to 5.1% of children born in the United State [1&2].

The reported incidence of bleeding in early spontaneous pregnancy varies between 9% [1] and 27% [2].

Although many women with bleeding will proceed to have normal term pregnancies, heavy bleeding, especially with pain, carries an increased risk of first trimester miscarriage [3]. Apart from miscarriage, the etiology of bleeding during early pregnancy is diverse. It can represent normal signs of implantation in very early pregnancy as well as pathological conditions such as ectopic pregnancy, intrauterine hematoma, and gestational trophoblastic disease [4].

Apart from representing a diagnostic challenge for the clinician, episodes of early pregnancy bleeding are associated with distress for the patient. [5]. In the light of infertility an episode of bleeding is especially troubling [6]

However, the knowledge regarding bleeding in early pregnancy after ART and the reproductive outcome is sparse.

What is new?

A recent systematic review revealed a total of 12 studies of interest [7]. This review reported that a total of 47% (149/320) of patients undergoing hormone replacement therapy frozen embryo transfer with a positive pregnancy test experienced bleeding before 8 weeks of gestation. Generally, the bleeding was described as spotting with a median of 2 days (range 0.5–16 days). Out of 149 patients with one or several bleeding episodes, a total of 106 patients (71%) had an ongoing pregnancy at 12 weeks of gestation.

In comparison, 171 patients reported no bleeding episodes and a total of 115 (67%) of these patients had an ongoing pregnancy at 12 weeks of gestation. This difference was not significant (P¼0.45).

Furthermore there was no difference in the live birth rate between the two groups (P¼0.29). [7].

What is the clinical implication?

Episodes of early bleeding during pregnancy are associated with distress for the pregnant woman, especially in a cohort of infertile patients.

At least minor bleeding seems to be a common adverse event of early pregnancy after ART.

However, minor bleeding during early pregnancy after ART does not seem to affect the reproductive outcome.

Knowledge regarding the frequent occurrence of bleeding during early pregnancy after ART and the fact that this should not be used as a prognostic parameter will help the clinician in counselling patients.

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