

Original Articles

Diclofenac suppository pretreatment in prevention of vasovagal reflex-associated complications for infertile women undergoing local endometrial injury

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Summary

Purpose of Investigation: To assess the effects of the diclofenac suppository pretreatment in prevention of vasovagal reflex-associated complications for infertile women undergoing local endometrial injury (LEI). **Materials and Methods:** Eighty-six infertile outpatients with repeated implantation failure following transfer of morphologically good embryos and/or blastocysts underwent single curettage LEI to improve the pregnancy outcome in the subsequent embryo/blastocyst transfer cycle. Of them, 35 patients chose diclofenac suppository administration prior to LEI, whereas 51 patients did not. The occurrence of palpitations, bradycardia, hypotension, presyncope, and requirement of bed rest was compared between the two groups. **Results:** There were no significant differences in the demographics between the two groups. The prevalence of presyncope and requirement of bed rest was significantly lower in the diclofenac suppository group than in the control group. The pregnancy outcome was similar between the two groups. **Conclusion:** The diclofenac suppository administration is a low-cost effective method to reduce the risk of the vasovagal reflex-associated complications in infertile women undergoing LEI.

Key words: Diclofenac suppository; Local endometrial injury; Repeated implantation failure; Single curettage biopsy; Vasovagal reflex.

Introduction

Repeated implantation failure (RIF) is defined as a series of failed conceptions despite intrauterine transfer of good embryos and/or blastocysts obtained in an in vitro fertilization program [1, 2]. Recent studies demonstrated that local endometrial injury (LEI) improves the pregnancy outcome in infertile patients suffering from RIF with endometrial factors [3-5]. Although the mechanism underlying that LEI increases the endometrial receptivity remains fully undetermined, this procedure was found to upregulate several important genes involved in the embryo implantation [2, 6, 7].

Although LEI is available to the infertile outpatients, the major problem of LEI is vasovagal reflex-associated complications. Diclofenac suppository is often utilized in clinical practice to prevent complications and sequelae during and following tissue biopsy [8, 9]. In this study, the authors investigated if diclofenac suppository pretreatment is feasible to reduce the vasovagal reflex-associated complications.

Materials and Methods

The study was approved by the local ethical committee of the Institutional Review Board. Under informed consent, 86 infertile pa-

tients with a history of three failed embryo/blastocyst transfer cycles and who preferred LEI prior to the subsequent embryo/blastocyst transfer cycle were enrolled in the study between July 2012 and June 2013. Diclofenac 25 mg suppository was administered 15 minutes prior to LEI to 35 patients who desired analgesic pretreatment. Fluid hysteroscopy and single curette LEI was performed once between day 6 and day 12 in the spontaneous cycle, as described previously [4, 5]. After single scratch in the uterine cavity, the curettage was removed to confirm endometrial sampling. If endometrial tissue was absent on the curette, an additional scratch was performed. All patients were given a prophylactic two-day oral administration of 400 mg/day clarithromycin.

Using two-by-two contingency table in combination with Pearson's chi-square test or Fischer's exact test, the prevalence of palpitations, bradycardia, hypotension, presyncope, and requirement of bed rest (for 15 minutes or more) was statistically compared between the diclofenac suppository group and non-pretreatment group.

Results

There were no significant differences in the demographics of the infertile patients between the diclofenac suppository group and non-pretreatment group (Table 1). While the occurrence of palpitations, bradycardia, and hypoten-

Revised manuscript accepted for publication July 3, 2014.

Table 1. — Demographics and complications in the two groups.

	Diclofenac suppository group (n = 35)	Non-pretreatment group (n = 51)	p value
Age (yrs), mean ± SD	38.0 ± 2.1	38.2 ± 2.8	0.83
Body mass index (kg/m ²), mean ± SD	20.2 ± 1.7	20.4 ± 1.8	> 0.9
Category			0.80
Primary	24 (68.6%)	38 (74.5%)	
Secondary	11 (31.4%)	13 (25.5%)	
Uterine pathology*			
Undetectable	19 (54.3%)	28 (54.9%)	0.60
Fibroids	10 (28.6%)	13 (25.5%)	0.46
Adenomyosis	2 (5.7%)	2 (3.9%)	0.53
Endometriosis	8 (22.9%)	11 (21.6%)	0.54
Septa/synechia	1 (2.9%)	1 (2.0%)	0.65
Complications			
Palpitations	0	1 (2.0%)	0.59
Bradycardia	1 (2.9%)	3 (5.9%)	0.46
Hypotension	1 (2.9%)	5 (9.8%)	0.70
Presyncope	0	6 (11.8%)	0.038
Requirement of bed rest	1 (2.9%)	9 (17.6%)	0.034

*Totals are not 100% due to some patients having more than one diagnose(s).

sion was similar between the two groups, that of presyncope and requirement of bed rest was significantly lower in the diclofenac suppository group than in the control group ($p < 0.038$). No adverse effects were recognized following diclofenac suppository administration. The reproductive outcome parameters including clinical pregnancy rate, embryo implantation rate, ongoing pregnancy rate, and live birth rate were comparable between the two groups ($p > 0.46$). When ongoing pregnancy occurred in these patients, the occurrence of obstetric complications was similarly low between the two groups ($p = 0.51$).

Discussion

In this study, the authors demonstrated that diclofenac suppository pretreatment reduces the occurrence of the vasovagal reflex-associated complications, such as presyncope and requirement of bed rest. Adverse effects were not recognized following administration. The authors previously showed that LEI does not increase the obstetric complications when pregnancy occurs in infertile patients [10]. This study demonstrated that diclofenac suppository pretreatment did not affect the reproductive outcome and pregnancy course.

Diclofenac suppository administration is a low-cost and time-saving prescription that has been widely used in pain

control for obstetrics gynecologic practice including relief of perineal pain after episiotomy, caesarean section, and laparoscopic sterilization [11]. The present findings also indicate the effectiveness, safety, and feasibility of this method for the pain control in infertile outpatients undergoing office hysteroscopy and LEI.

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