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Title:

CHRONIC ENDOMETRITIS SCREENING IN PATIENTS WHO EXPERIENCE EUPLOID EMBRYO IMPLANTATION FAILURE DOES NOT IMPROVE IVF OUTCOMES AFTER A SUBSEQUENT EUPLOID FET

Authors:

Carlos Hernandez-Nieto, MD[1], Joseph A. Lee, BA[1], Daniel E. Stein, MD[1,2], Tanmoy Mukherjee, MD[1,2], Benjamin Sandler, M.D.[1,2] and Alan B Copperman, MD[1,2]

Affiliations:

1. Reproductive Medicine Associates of New York, 635 Madison Ave 10th Floor New York, New York, United States, 10022

2. Icahn School of Medicine at Mount Sinai, Klingenstein Pavilion 1176 Fifth Avenue 9th Floor New York, New York, United States, 10029

Objective:

Infertile women who experience recurrent implantation failure (RIF) is commonly diagnosed with Chronic Endometritis (CE). Recent studies have shown that CE may affect endometrial decidualization and alter expression of proteins involved in endometrial-embryo receptivity. Therefore, CE is considered as a potential etiology of failed euploid embryo implantation when no other clinical cause is evident. There are limited findings to draw conclusions about the value of performing an endometrial biopsy (EB) for CE screening; especially within patients who have experienced a failed euploid embryo transfer (1). The aim of this study is to assess the clinical benefit of patients who undergo an endometrial biopsy and chronic endometritis screening following a failed euploid embryo transfer and prior to undergoing further ART treatment.

Design:

Retrospective cohort analysis

Materials and Methods:

This study included infertile patients who had a failed a euploid embryo transfer and, thereafter, underwent an endometrial biopsy for CE screening, received antibiotic treatment (if indicated),

and had a subsequent single, euploid frozen embryo transfer from January 2016 to December 2018.Cohorts were segregated as it follows: Group 1: patients that underwent a EB and were diagnosed with CE and received antibiotic treatment; Group 2: Patients who underwent EB and were negative for CE; and Group 3: a control group of patients without an EB. Demographic characteristics and IVF outcomes were compared among cohorts. ANOVA, χi2 test, and an adjusted multivariate regression analysis with a GEE model were used for data analysis.

Results:

A total of 1109 patients with a failed euploid FET were included in the analysis, Group 1 (n=124); Group 2 (n=90) and Group 3 (n=985); Significant differences were found in BMI (Group 1: 24.6, Group 2: 24.5, Group 3: 23.5,p=0.01), prior number of euploid FET cycles (1.8, 1.67, 1.55, p=0.006), and days between EB and FET (Group 1: 63.1, Group 2: 94.3, p=0.001). No significant differences were found on implantation rate (69.3%, 71.1%, 64.4%, p=0.5), clinical pregnancy rate (52.4%, 54.4%, 54.8%,p=0.9), live birth rate (LBR) (45.1%, 46.6%, 42.4%, p=0.65) and clinical loss rates (7.2%, 7.7%, 11.3%, p= 0.24) among cohorts. After adjusting for age, BMI, AMH, embryo quality and day of embryo biopsy, there was no association between patients who received CE diagnosis (OR 1.5, CI95% 0.8-2.8,p=0.1), and for those who received a normal EB result (OR1.1,CI95% 0.6-1.7,p=0.6) with lower odds of LBR when compared to the control group.

Conclusion:

Understanding the potential advantages of CE screening on embryo implantation outcome is of critical importance for modern ART specialists. To date there is no high quality evidence to support performing endometrial biopsies for CE screening in patients who experienced a failed embryo implantation. Our study suggests that undergoing an endometrial biopsy, regardless of results, does not result in improved IVF outcomes in subsequent euploid FET as compared with patients who were not tested for chronic endometritis.