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Management of endometrial polyps incidentally diagnosed during IVF: a case-control study

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KEY MESSAGE
Endometrial polyps, a uterine cavity abnormality, may interfere with embryo implantation. For women with endometrial polyps incidentally diagnosed during IVF, pregnancy outcomes are not compromised after hysteroscopic polypectomy followed by vitrified-warmed embryo transfer. Transfer of vitrified-warmed embryos 1–2 months after polypectomy is recommended before the recurrence of endometrial polyps.

A B S T R A C T

An endometrial polyp is a frequently encountered abnormality of the uterine cavity that may interfere with normal embryo implantation. In this case-control study, we enrolled 56 women in whom endometrial polyps were incidentally diagnosed by transvaginal ultrasound and office hysteroscopy during IVF (Group 1), and 112 age-matched IVF controls randomly selected from the same time period (group 2). Cryopreserved embryos were transferred in group 1 whereas fresh embryos were transferred in group 2, which is a limitation of the study. Hysteroscopic polypectomy was carried out for those in group 1, followed by vitrified-warmed embryo transfer 1–7 months later. Results revealed that the clinical pregnancy rate was higher in group 1 than in group 2 (63% versus 41%, $P = 0.009$), but the embryo implantation rates were not different between the two groups (26% versus 20%). In group 1, pregnancy rates (64%, 69%, and 53% respectively) and embryo implantation rates (30%, 24%, and 23%, respectively) were similar among women that received vitrified-warmed embryo transfer at 1, 2, and 3 months or over after hysteroscopic polypectomy. We conclude that, for women with endometrial polyps incidentally diagnosed during IVF, pregnancy outcomes are not compromised after hysteroscopic polypectomy followed by vitrified-warmed embryo transfer.

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http://dx.doi.org/10.1016/j.rbmo.2016.12.012

Introduction

Endometrial polyp is a frequently encountered abnormality of the uterine cavity in infertile women. It is one of the most common causes of abnormal uterine bleeding (Clevenger-Hoeft et al., 1999), although women with endometrial polyps may also be asymptomatic (Dreisler et al., 2009). Infertile women are more likely to be afflicted with endometrial polyps than fertile women (AAGL, 2012). The relatively high prevalence of endometrial polyps in infertile women scheduled for IVF suggests a causative relationship between the presence of endometrial polyps and infertility (Hinckley and Milki, 2004). The mechanisms through which endometrial polyps contribute to infertility, however, remain uncertain. Altered endometrial environment and intracavitary bleeding caused by the endometrial polyps have been proposed as explanations for the defect in embryo implantation potentials (Varasteh et al., 1999). A previous study detected elevated glycodelin levels in uterine flushings and in plasma in the proliferative phase (cycle day 5–14) in women with endometrial polyps, which may impair fertilization and embryo implantation (Richlin et al., 2002).

For infertile women with endometrial polyps, hysteroscopic polypectomy seems to enhance fertility (Varasteh et al., 1999). Women who underwent polypectomy before intrauterine insemination had a higher probability of becoming pregnant (relative risk 2.1) compared with those who did not receive polypectomy (Perez-Medina et al., 2005). The improvement seen in pregnancy rates after hysteroscopic polypectomy is even greater for women in whom infertility could not be explained by other causes (Stamatellos et al., 2008). Pregnancy rates after hysteroscopic polypectomy have been reported to range from 23–65% (Preutthipan and Herabutya, 2005; Shokeir et al., 2004; Varasteh et al., 1999).

Folliculometry is a routine practice during ovarian stimulation, and endometrial polyps may be incidentally noted during examinations. Despite its perceived importance in infertile women and a highly accessible screening tool, no guidelines have been published on the treatment of endometrial polyps during IVF. In this study, we enrolled women whose endometrial polyps were incidentally noted during ovarian stimulation. Transvaginal oocyte retrieval was carried out as scheduled, but the fertilized oocytes were cryopreserved. Hysteroscopic polypectomy was carried out in the subsequent menstrual cycle, and cryopreserved embryos were transferred thereafter. The IVF outcomes were compared with those of age-matched controls who underwent IVF and fresh embryo transfer.

Materials and methods

Participants

In this case-control study, medical records of women who underwent IVF treatment at the National Taiwan University Hospital between September 2011 and October 2015 were reviewed. Group 1 consisted of 56 women with endometrial polyps diagnosed by office hysteroscopy (**Figure 1B–1D**), which is considered the gold standard for the diagnosis of endometrial polyps (Brown et al., 2000). The indication for office hysteroscopy was based on the suspicion of endometrial polyps

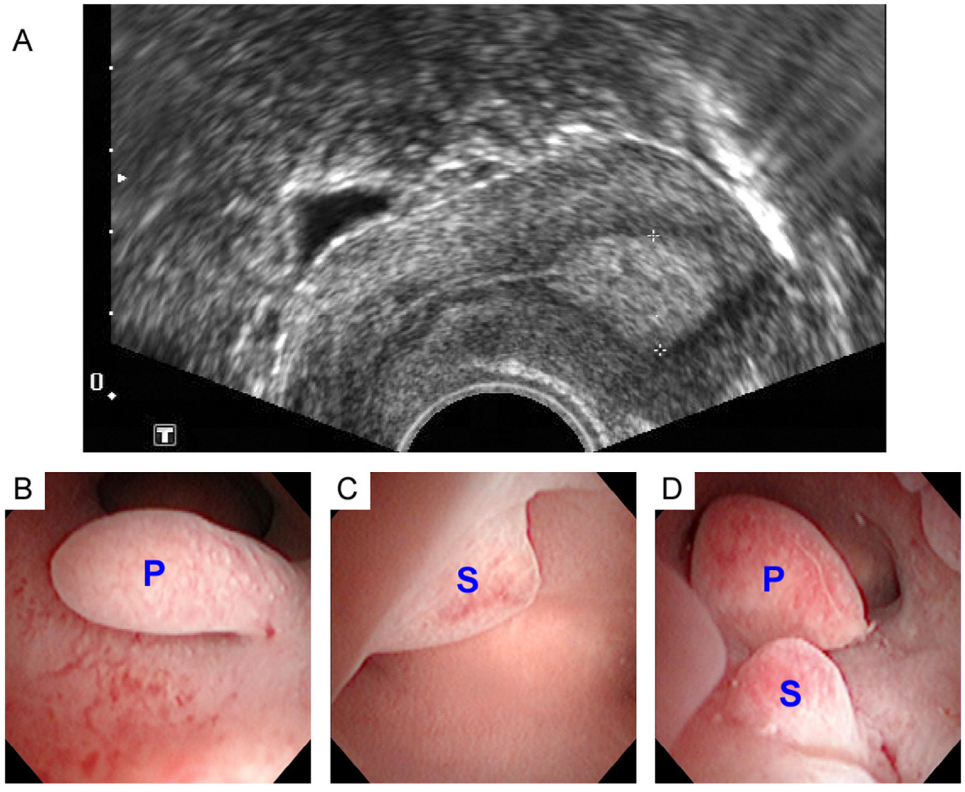

Figure 1 – (A) Transvaginal ultrasound reveals focally thickened endometrium; (B) office hysteroscopy demonstrates a pedunculated type endometrial polyp (P) with the angle of polyp surface to endometrium less than 90°; (C) a sessile type endometrial polyp (S) with an angle of 90° or wider; and (D) multiple endometrial polyps containing both types.