European Journal of Obstetrics & Gynecology and Reproductive Biology 224 (2018) 1–5

Contents lists available at ScienceDirect

European Journal of Obstetrics & Gynecology and Reproductive Biology

journal homepage: www.elsevier.com/locate/ejogrb

Full length article

Retained products of conception: What is the risk for recurrence on subsequent pregnancies?☆

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ARTICLE INFO

Article history:
Received 21 September 2017
Received in revised form 25 February 2018
Accepted 4 March 2018
Available online xxx

Keywords:
Retained products of conception
Hysteroscopy
Residual trophoblastic tissue

ABSTRACT

Objective: To investigate whether women who were surgically treated for retained products of conception (RPOC) by either suction curettage or hysteroscopy are at risk for recurrent RPOC on their subsequent pregnancies.

Study design: Retrospective analysis of 442 women surgically treated for RPOC following delivery or abortion by suction curettage (N = 63, 14.3%) or hysteroscopy (N = 379, 85.7%). Information on subsequent pregnancies and their outcomes was available for 161 (36.4%) women.

Results: One or more live births were reported for 150 (93.2%) of the women for whom information on subsequent pregnancies was available. The overall rate of spontaneous abortions was 31/161 (19.3%). Recurrent RPOC were diagnosed in 25 (15.5%) cases, while third stage of labor placental problems (including retained placenta or cotyledons and placenta accreta) were found in 44 (27.3%) cases. Recurrent RPOC was associated with treatment by suction curettage compared with hysteroscopy for the initial RPOC on multivariate logistic regression analysis (Odds Ratio [OR] = 3.6, 95% Confidence Interval [CI]1.3–10.5, p = 0.01) and with the initial RPOC occurring after delivery compared with after abortion (OR = 8.4, 95%CI 1.8–39.5, p = 0.006).

Conclusion: Women treated for RPOC are at risk for recurrent RPOC and for third stage of labor placental problems on their subsequent pregnancies, especially those who had been managed by suction curettage in comparison with operative hysteroscopy. Clinical and ultrasound follow-up in the early and late postpartum period should be considered in women with a history of RPOC.

Introduction

Retained products of conception (RPOC) occur in up to 3% of all deliveries and abortions [1]. The treatment of RPOC includes uterine cavity evacuation by suction curettage or, increasingly, by operative hysteroscopy or hysteroscopic morcellation [2–4]. Both surgical techniques are associated with the long-term complications of intrauterine adhesions, which may cause traumatic amenorrhea, infertility, recurrent abortions and abnormal placentation [5]. However, the rates of post-surgical intrauterine adhesions differ between women treated by suction curettage compared with those managed by operative hysteroscopy. While intrauterine adhesions have been reported in up to 40–60% of women following curettage for RPOC, the rate of intrauterine adhesions following hysteroscopy is much lower, i.e., around 7–10% [2,6–8]. The difference in the rates of intrauterine adhesions may be explained by the targeted and limited hysteroscopic removal as opposed to the global and "blind" uterine cavity curettage.

In view of the possible injury to the endometrium by the RPOC and by the surgical procedure used to remove them, the reproductive outcomes of these patients' subsequent pregnancies could be compromised. In particular, there may be increased risk for placental problems due to abnormal placentation, such as placenta accreta, retained placenta and recurrent RPOC. To date, several studies have investigated the reproductive outcomes of patients treated for RPOC. Ikhena et al. [9] followed 111 patients treated hysteroscopically for RPOC and reported that abnormal placentation (including placenta previa, placenta accreta and retained placenta) was present in 18.1% of those patients' subsequent pregnancies. Sonnier et al. [10] reported a conception rate of 71.1% at 6 months and 83.5% at 12 months among 53 patients treated hysteroscopically for RPOC. Ben Ami et al. [11]

☆ Part of this publication was performed to fulfill the MD thesis requirements of the Sackler School of Medicine, Tel-Aviv University, Tel-Aviv, Israel.

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https://doi.org/10.1016/j.ejogrb.2018.03.006
0301-2115/

compared the reproductive outcomes of women with RPOC treated by dilatation and curettage (D&C) and hysteroscopy. They found that hysteroscopy was associated with a shorter mean time to further conception. None of those studies investigated the rates of recurrent RPOC, which could be increased in these women due to their potential endometrial injury. This information is of clinical importance since appropriate ultrasound postpartum follow-up may be offered to women who are at increased risk for RPOC.

The aim of this study is to determine the risk for recurrent RPOC and placental problems on subsequent pregnancies of women surgically treated for RPOC, and to compare this risk between women who underwent hysteroscopic removal versus removal by suction curettage.

Materials and methods

For this retrospective cohort study, we conducted a computerized search for all cases treated for RPOC in our institution between January 2008 and December 2015, using the ICD-9 codes 667.10–667.14 (retained portion of placenta or membranes). This study period was chosen because hysteroscopy became the main surgical approach for treatment of RPOC at that time. The medical records of all identified cases were retrospectively reviewed. We retrieved the information on demographics, medical history, obstetric and gynecologic history (including gravidity, parity, and history of abortions and cesarean sections). We also noted any history of third stage of labor placental problems (defined as need for manual uterine exploration immediately after vaginal delivery for removal of placental remnants or retained placenta, and history of abnormally adherent placenta, such as placenta accreta), and the type of birth or abortion leading to RPOC diagnosis. The women who had been treated for RPOC who had been diagnosed following delivery (either vaginal or cesarean birth) and those who had been treated for RPOC occurring after medical or surgical abortion were recruited into the study. The diagnosis of RPOC was made according to ultrasound findings (including gray-scale and Doppler color flow), hysteroscopic findings, and pathology results (Figs. 1 and 2). The β-human chorionic gonadotropin (HCG) levels were not measured. Finally, we retrospectively collected information on subsequent pregnancies, including the occurrence of RPOC requiring surgical management, and the occurrence of third stage of labor placental problems (defined as need for manual uterine exploration immediately after vaginal delivery for removal of placental remnants or retained placenta, and/or diagnosis of placenta accreta).

The procedures for RPOC removal included suction curettage or operative hysteroscopy (using the technique previously described) performed under general anesthesia [4]. The choice of the operative technique for RPOC removal was at the discretion of the managing gynecologists, based on their surgical experience and skills and the clinical presentation of the patient.

The statistical analysis was performed with the SPSS software (Version 22, IBM Corp.). Descriptive variables are presented as mean ± standard deviation or as median (range). Frequencies were compared with the Chi-square test or with the Fisher's exact test. Means and medians were compared with the Student *t*-test or with the ANOVA test as appropriate. Binary logistic regression analysis was performed to test the association between recurrent RPOC and third stage of labor placental abnormalities and various clinical, surgical and obstetric parameters. The results of the logistic

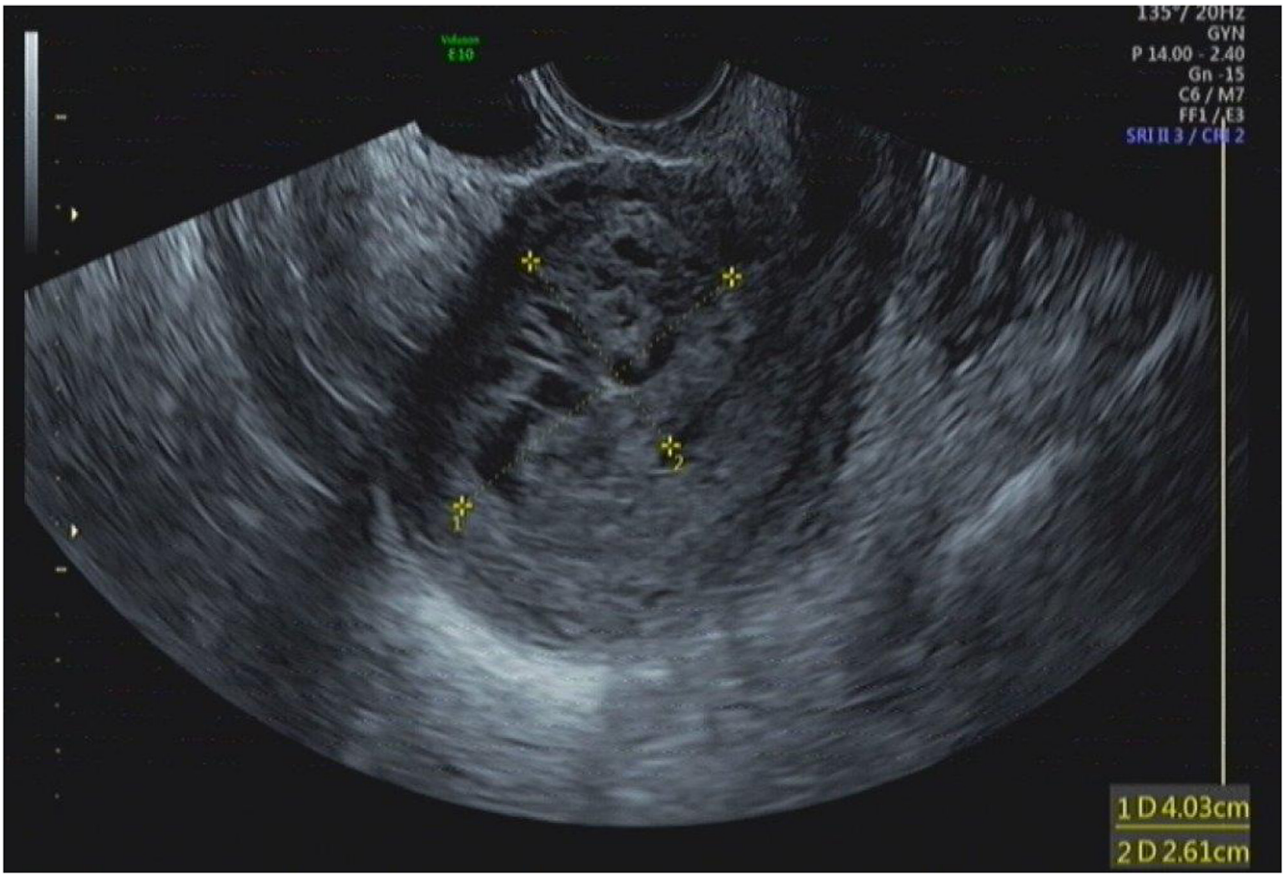

Fig. 1. Ultrasound images of a 35-year-old gravida 3 para 1 diagnosed with RPOC following medical termination of an early missed pregnancy. She was previously treated by hysteroscopy for RPOC following a vaginal delivery. Her ultrasound scan shows a mixed hypo- and hyper-echogenic intracavitary lesion measuring 26*40 mm.