

Original research article

Medical termination of pregnancy during the second versus the first trimester and its effects on subsequent pregnancy^{☆,☆☆}

Jaana Männistö^a, Maarit Mentula^b, Aini Bloigu^c, Mika Gissler^{d,e},
Maarit Niinimäki^{f,*}, Oskari Heikinheimo^b

^aDepartment of Obstetrics and Gynecology, University Hospital of Oulu, Oulu, Finland

^bDepartment of Obstetrics and Gynecology/Kätilöopisto Hospital, University of Helsinki and Helsinki University Central Hospital, Helsinki, Finland

^cNational Institute for Health and Welfare, Oulu, Finland

^dNational Institute for Health and Welfare, Helsinki, Finland

^eNordic School of Public Health, Gothenburg, Sweden

^fDepartment of Obstetrics and Gynecology, University of Oulu and University Hospital of Oulu, Oulu, Finland

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Abstract

Objective: The objective was to compare the risks of preterm birth, low birth weight, small for gestational age (SGA) infants and placental complications in subsequent pregnancy after second vs. first trimester medical termination of pregnancy (MTOP) in primigravid women.

Study Design: A total of 88,522 women who underwent termination of pregnancy during 2000–2009 were identified using Finnish health registers. Of them, primigravid women who underwent MTOP and had subsequent pregnancy ending in live birth up to the end of 2009 ($n=3843$) were included in the study. The incidences and risks of preterm birth, low birth weight, SGA infants and placental complications after first- ($n=3427$) vs. second-trimester MTOP ($n=416$) were compared.

Results: Differences between the study groups in the incidences of preterm birth (3.9% in both groups), low birth weight (3.9% in the second- vs. 3.2% in the first-trimester group), SGA infants (2.4% vs. 2.5%) and placental complications (1.9% vs. 2.6%) were statistically insignificant. Second-trimester MTOP was associated with similar risks of preterm birth, low birth weight, SGA infants and placental complications compared with first-trimester MTOP after adjustment for background characteristics. After second-trimester MTOP, 51.2% of women underwent surgical evacuation, and 4.3% were diagnosed with infection. The differences in the risks of preterm birth, low birth weight, SGA infants and placental complications were statistically insignificant between women with vs. without these complications following second-trimester MTOP.

Conclusions: Second-trimester MTOP among primigravid women did not increase the risks of preterm birth, low birth weight, SGA infants or placental complications in subsequent pregnancy compared with first-trimester MTOP.

Implications: The present study suggests that medical termination of pregnancy in primigravid women during second vs. first trimester does not increase the risks of adverse outcomes in subsequent pregnancy and delivery. The data are of value when counseling women undergoing second-trimester TOP.

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Keywords: Medical abortion; Preterm birth; Low birth weight; Small for gestational age; Placental complications

1. Introduction

The estimated rate of termination of pregnancy (TOP) in developed countries is 24 per 1000 women of reproductive age [1]. The proportion of cases of second-trimester TOP of all TOPs varies between 6% and 12% in England and Wales, Sweden and the United States [2–4]; in Finland, it is 7% [5]. Although second-trimester TOP can be performed by either medical or surgical methods, in many countries in Northern

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* Corresponding author. Department of Obstetrics and Gynaecology, University Hospital of Oulu, 90029-OYS Oulu, Finland.

E-mail addresses: jkervine@student.oulu.fi (J. Männistö), maarit.niinimaki@oulu.fi (M. Niinimäki).

and Western Europe, medical TOP (MTO) is used almost without exception [5,6].

Women undergoing TOP are typically at their best reproductive age, and most of them have plans for pregnancy after TOP. Increasing use of MTO has raised the question of the safety of the method as regards the future pregnancies. In recent large-scale studies, first-trimester MTO has not been found to increase the risks of preterm birth, low birth weight, small for gestational age (SGA) infants or placental complications in subsequent pregnancy [7–10]. Little is known about MTO during the second trimester and its effect on subsequent pregnancy. Previous studies have mainly focused on surgical TOP, and they have revealed that dilation and evacuation in the second trimester do not increase the risks of preterm birth, cervical incompetence or placental abnormalities [11–13]. In our previous study, we found that the risks of surgical evacuation and infection were higher after second-trimester vs. first-trimester MTO [14]. These short-term complications might potentially increase the risk of adverse events in later pregnancies.

The aim of this study was to compare second- versus first-trimester MTO among primigravid women as regards the risks of preterm birth, low birth weight, SGA infants and placental complications (*placenta previa*, *placenta accreta*, retained placenta and placental abruption) in subsequent pregnancy. Furthermore, we aimed to assess the influence of short-term complications following second-trimester MTO on subsequent pregnancy. In a subanalysis, women who had undergone second-trimester MTO and who were diagnosed with infection, underwent surgical

evacuation, or both were compared with women who did not have these complications.

2. Materials and methods

In this population-based register study, three national registers were linked: the Register of Induced Abortions, the Medical Birth Register and the Hospital Discharge Register. According to the Register of Induced Abortion, 88,522 women underwent TOP during 2000–2009, and 42,250 (48%) of these women were primigravid (Fig. 1). Among these primigravid women, 9165 had a subsequent pregnancy ending in a singleton delivery. MTO was performed in 4195 (46%) of these women. After excluding women whose indication for TOP was suspected or confirmed fetal anomaly or abnormality ($n=336$), women who had an ongoing pregnancy ($n=7$) and women who had stillbirths ($n=9$), the final population for analysis consisted of 3843 women. Of that population, 3427 had undergone MTO in the first trimester; and 416, in the second trimester.

We excluded the women with TOP due to fetal anomaly or abnormality because this group might represent a different entity compared with women whose indication for TOP is social. Finnish legislation on termination of pregnancy is described elsewhere in more detail [7]. Briefly, TOP is allowed at up to 20+0 weeks of gestation in connection with ethical, social and medical indications, and in cases of a confirmed medical condition of the fetus at up to 24+0 weeks [15]. Stillbirths were excluded because they usually lead to iatrogenic premature birth.

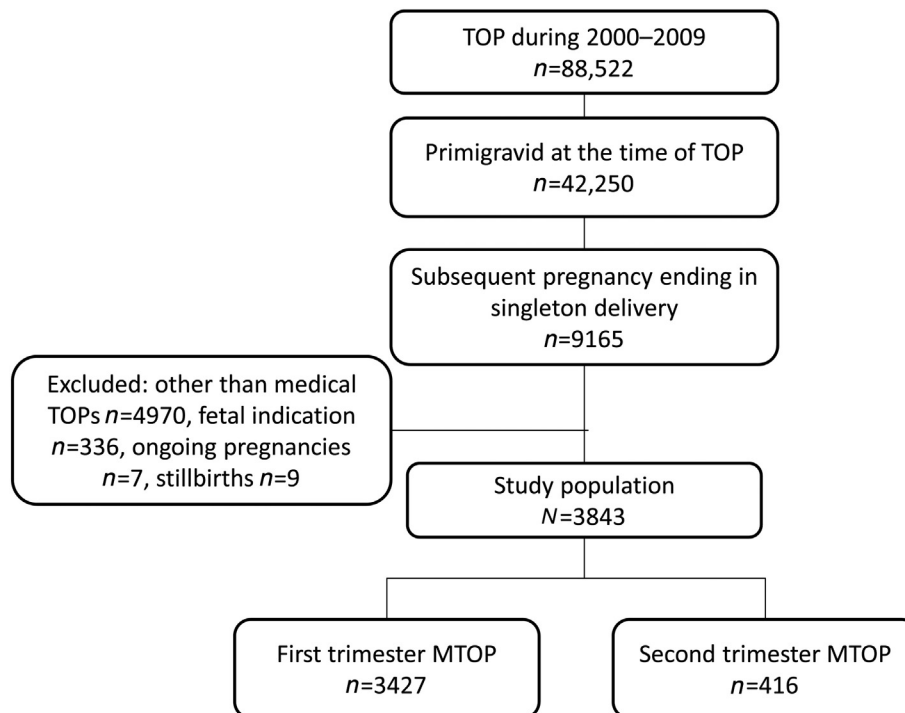


Fig. 1. The flowchart of primigravid women who underwent medical termination of pregnancy during 2000–2009 and whose subsequent pregnancy ended in delivery.

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