

The value of peroperative ultrasound examination in first trimester legally induced abortion

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Summary: A prospective study was carried out based on 117 first trimester legally induced abortions. Abdominal ultrasound examination was performed immediately after aspiration. The predictive value of an empty uterus at ultrasound examination was 97.3%. The rate of retained tissue was not reduced compared to studies where peroperative ultrasound was not used.

Key words: Peroperative ultrasound; Legally induced abortion.

INTRODUCTION

Despite curettage after vacuum aspiration of induced first trimester abortions some patients experience signs and symptoms of retained placental tissue. Increased rates of complications have been reported in pregnancies following re-evacuation (⁷). In connection with a complicated course after abortion and vaginal delivery, the diagnostic importance of ultrasound examination has been described (^{2, 10, 11}).

This prospective study was undertaken in order to evaluate the use of peropera-

tive ultrasound examination in the prediction of an empty uterus in induced abortion and study the effect of peroperative ultrasound on the rate of complications after legal termination in first trimester abortion.

MATERIALS AND METHODS

Women referred for legally induced first trimester abortion were included in this prospective study after informed consent. Data on the women's medical and obstetrical history were registered. The abortions were performed under general anaesthesia by vacuum aspiration followed by blunt curettage of the cavity, by registrars of varying competence. At the end of the operation 10 IU of oxytocin were given intravenously. After completion of the procedure abdominal ultrasound examination was performed by one of the authors.

The uterus was examined longitudinally and transversely using an Ultrasound Scanner type 1846 (Brüel & Kjør) equipped with a 3 Mhz abdominal transducer. Dense echoes in the uterus cavity were indicative of retained tissue and the procedure with aspiration and/or curettage was repeated until a clearly defined cavity echo was found.

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The women were discharged the same day. Complications requiring readmission within the first month were registered. The results of the ultrasound were blinded to the subsequent examining doctor and the pathologist.

RESULTS

One hundred and seventeen women were included in the study, median age 29.5 years (range 18-48 years). The distribution of parity and gestational age is shown in table 1.

No peroperative complications were registered. Six women (5.1%) were readmitted within 4 weeks after abortion because of bleeding and pain (Table 2). Recurettage was performed in 5 women (4.2%) because of clinical signs of retained tissue.

However, in only 3 patients (2.6%) retained pregnancy products were demonstrated histopathologically. Two patients were treated with antibiotics because of asymptomatic positive chlamydia culture.

The predictive value of the finding of an empty uterus at ultrasound examination was $114/117 = 97.3\%$.

DISCUSSION

Elective first trimester abortion carries a risk for complications for the patient and incomplete terminations have been reported in 0.5 - 10.4% (1, 5, 6, 9, 12). In a

Table 1. - *Parity of the women and gestational age among 117 induced first trimester abortions.*

	Number	%
Parity 0	55	47
1 +	62	53
Gestational age week 7	12	10
week 8	37	32
week 9	26	24
week 10	15	13
week 11	13	11
week 12	12	10

Table 2. - *Treatment in 6 women readmitted within 4 weeks after legally induced first trimester abortion.*

Number	Gestational age at termination	Treatment	Microscopy
1	8	re-evacuation removal of IUD antibiotics	chorionic villi
2	8	re-evacuation	chorionic villi
3	8	re-evacuation	chorionic villi
4	12	puncture of ovarian cyst	
5	9	re-evacuation antibiotics	necrotic decidua
6	8	re-evacuation	necrotic decidua

large study analysing postabortal complications in Denmark (1) an overall complication rate of 6.1% was found after first trimester abortion, and recurettage was performed in 2.9% of the women. Another study reported re-evacuation in 3.2% (9). Histopathologically retained pregnancy products were only demonstrated in one patient (0.4%). As it has been shown that the experience of the surgeons is of significance for the number of incomplete terminations (6, 12) it seems reasonable to assume that the high rate of re-evacuations in this study (4.2%) is explained by the varying experience of the surgeons.

Compared to studies without ultrasound examination the rate of retained tissue in our study was not reduced. The rate of retained tissue was not analysed with regard to the experience of the person performing ultrasound examination. Members of staff with special training in ultrasound examination might have seen the retained tissue. Furthermore vaginal ultrasound would allow for more precise visualisation of the uterine cavity, especially in retroverted uteri.

In our study a predictive value of an empty uterus at ultrasound examination was 97.3%. A predictive value of the

empty uterus close to 100% using transabdominal ultrasound examination has been demonstrated by other authors (2, 10, 11). From the clinical course of events they assumed that there were no false negative results. On the contrary, the presence of dense intrauterine echoes did not necessarily indicate retained products of conception. Colov and co-workers have compared hysteroscopy and ultrasound examination in patients suspected of retained pregnancy products and found hysteroscopy significantly superior to ultrasound examination (8). Leuken (3), however, stresses the limitations of hysteroscopy in the soft postaborted uterus and it is hardly practicable to perform hysteroscopy in all patients referred for induced first trimester abortion.

In conclusion, we found that peroperative ultrasound examination did not reduce the rate of retained tissue and cannot be recommended as a routine in all patients. Ultrasound examination remains valuable when retention of products is suspected e.g. when the amount of tissue after aspiration is less than expected.

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