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SHORT REPORT

Spontaneous abortion: expectant management, medical treatment or surgical evacuation

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The aim of this study was to compare expectant management, misoprostol applied vaginally and surgical evacuation in women with incomplete spontaneous abortion.

Materials and methods

The three gynecologic departments in Herlev, Gentofte and Glostrup, Copenhagen County participated in this prospective crossover study with alternating treatments every 4 months during 1 year. The entry criteria to the study were:

1) fresh bleeding; and
2) positive urine human chorionic gonadotrophine (hCG) or plasma-hCG > 30 IU/l; and
3) a trans-vaginal ultrasound (US) demonstrating retained products of conception with an anterior–posterior diameter of 15–50 mm; and
4) crown rump length (CRL) < 50 mm with no cardiac activity if a fetus was visible.

The exclusion criteria were: age below 18 years, suspicion of ectopic pregnancy, allergy or contraindications against misoprostol, sign of infection, heavy bleeding demanding acute evacuation or women not speaking Danish. The three treatment regimens were:

1) Expectant management (EM).
2) Medical treatment with misoprostol 0.4 mg applied vaginally (MT) and 4 hr of observation.
3) Surgical evacuation under general anesthesia (SE).

P-progesterone and p-hCG were measured at day 1 and p-hCG again at days 8 and 14. All women were offered diclofenac 100 mg rectally for pain relief at day 1.

A US examination was conducted at day 8. If the US demonstrated an anterior–posterior diameter > 15 mm or a gestational sac was visible, a repeat US was conducted at day 14. If at day 14 the US was unchanged or the anterior–posterior diameter was > 15 mm, SE or (in case of primary evacuation) re-evacuation was done. The participants were asked to return by mail a questionnaire covering treatment-related issues after 21 days. The study was approved by the Scientific Ethical Committee of Copenhagen County (KA 99114s).

Test of significance was calculated by the χ^2-test. Length of bleeding was tested also with the non-parametric Wilcoxon test. Level of significance was set at 5%.

Results

During the 1-year study period, 224 women were admitted with a spontaneous abortion. Of these,

Table I. Expectant management (Expect.) and medical treatment (Medical) of spontaneous abortion. Results from seven studies, listed according to year of publication

Author (reference)	Henshaw (4)	De Jonge (5)	Nielsen (1)	Chipchase	Jurkovic (2)	Nielsen (3)	This study
Year of public.	1993	1995	1995	1997	1998	1999	2001
Nationality	English	South Africa	Swedish	English	English	Swedish	Danish
No of patients	44	50	155	35	221	122	78
Regimens							
Expectant	No	No	Yes	Yes	Yes	Yes	Yes
Misoprostol	400 μg orally*	400 μg orally	No	No	No	400 μg orally†	400 μg vaginally
Control	US	Clinical	US	US	US	US	US, hCG
Control time	Day 2, 10–14	12 hr	Day 3 + 14	Day 8 + 14	Day 8, 14, 21 etc.	Day 5	Day 8 + 14
Results	Medical	Medical	Expect.	Expect.	Expect.	Expect./Medical	Expect./Medical
Included	43	23	103	19	85	62/60	17/31
Complete abort.	41	3	81	19	21	47/49	14/28
Success rate	95%	13%	79%	100%	25%	76%/82%	82%/90%
Failed	2	20	22	0	64	15/11	3/3
Failure rate	5%	87%	21%	0%	75%	24%/18%	18%/10%
Evacuated if	Heavy bleeding	Clinical	Retained products >15 mm	Not indicated	Not indicated	Retained products >15 mm	Retained products >15 mm

*Or sulprostone 0.5 mg intramuscularly. †Pretreatment with mifepristone 400 mg orally.

124 fulfiled the entry criteria, 78 patients (63%) accepted inclusion.

EM was successful in 14 (82%) of 17 women, MT in 28 (90%) of 31 women, and SE in 29 (97%) of 30 women.

Two women (4%) in the EM + MT groups were treated with antibiotics due to endometritis, whereas no women were treated for postoperative infection in the SE group.

Questionnaires were returned by 65 (83%) of the 78 women. The length of bleeding in the three groups were: EM, 6.5 days; MT, 7.6 days; and SE, 3.2 days (EM/SE: $p < 0.05$ and MT/SE < 0.01). Number of days with analgesic need: EM, 1.8 days; MT, 2.1 days; and SE 0.4 days (NS).

The proportion of women recommending the specific regimens were: EM, 62%; MT, 67%; and SE; 84% (NS)

The groups were too small to explore the predictive value of p-hCG or p-progesterone for secondary surgical evacuation.

Discussion

Table I summarizes the results of six previous studies (1–5) and this study. Women treated with misoprostol may have a higher expulsion rate (90%) when compared with EM (82%) (3), We administrated misoprostol vaginally, whereas Nielsen et al. gave tablets orally (3). Furthermore, a previous study demonstrated fewer side-effects when misoprostol is given vaginally as compared with oral administration (6). We therefore recommend misoprostol to be given vaginally.

Conclusion

Expectant management is successful in most patients with incomplete spontaneous abortion with a mid-line echo of 15–50 mm, but implies a few days more bleeding than surgical intervention. Misoprostol, preferably given vaginally, may increase the rate of complete expulsion.

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