Managing failure of medical abortion

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Disclosures

- No relevant disclosures

Objectives

1. Review definitions of medical abortion failure
2. Discuss methods of identifying failure
3. Review the role of ultrsound if needed
4. Review management of ongoing pregnancy, retained non-viable pregnancy, incomplete abortion

Medical abortion reporting of efficacy (MARE) guideline

- Goal: Standardise early medical abortion efficacy reporting
  - Facilitate comparison of outcomes between studies
  - Improve ability to synthesise data to create evidence-based guidelines
- Supplement to CONSORT (randomised trials) and STROBE (cohort studies)

Creinin and Chen *Contraception* 2016.

MARE definitions

- Successful medical abortion: expulsion of pregnancy without need for surgical intervention
  - Define the types of medical abortion failure (e.g., ongoing pregnancy, incomplete abortion, participant symptoms)
  - Continuing pregnancy: viable pregnancy following treatment (to be differentiated from a non-viable pregnancy/retained gestational sac)
- Explain follow-up assessments used to determine outcome and length of time planned to determine outcomes

Creinin and Chen *Contraception* 2016.

Identifying medical abortion failure: Original models of care

- Assessment of signs and symptoms (in person with a clinician)
- Inspection of products/pelvic examination
- Routine ultrasound

"Routine" (i.e., in person) follow-up no longer recommended by WHO

- Why?
  - Medical abortion with mifepristone and misoprostol highly effective; few women will need intervention
  - Multiple office visits neither feasible nor desirable for all
  - Repeated visits expensive for providers (especially if women no not attend the appointment)
  - Over diagnosis with ultrasound increases interventions; many of which probably unecessary

Grossman D et al *Obstet Gynecol* 2005

Identifying medical abortion failure: Newer models of care

- Assessment of signs and symptoms (discussion or checklist)
- Assessment of hCG
  - Serial serum levels
  - High sensitivity urine pregnancy test
  - Low sensitivity urine pregnancy test
  - Multi-level urine pregnancy test
- Ultrasound only if indicated

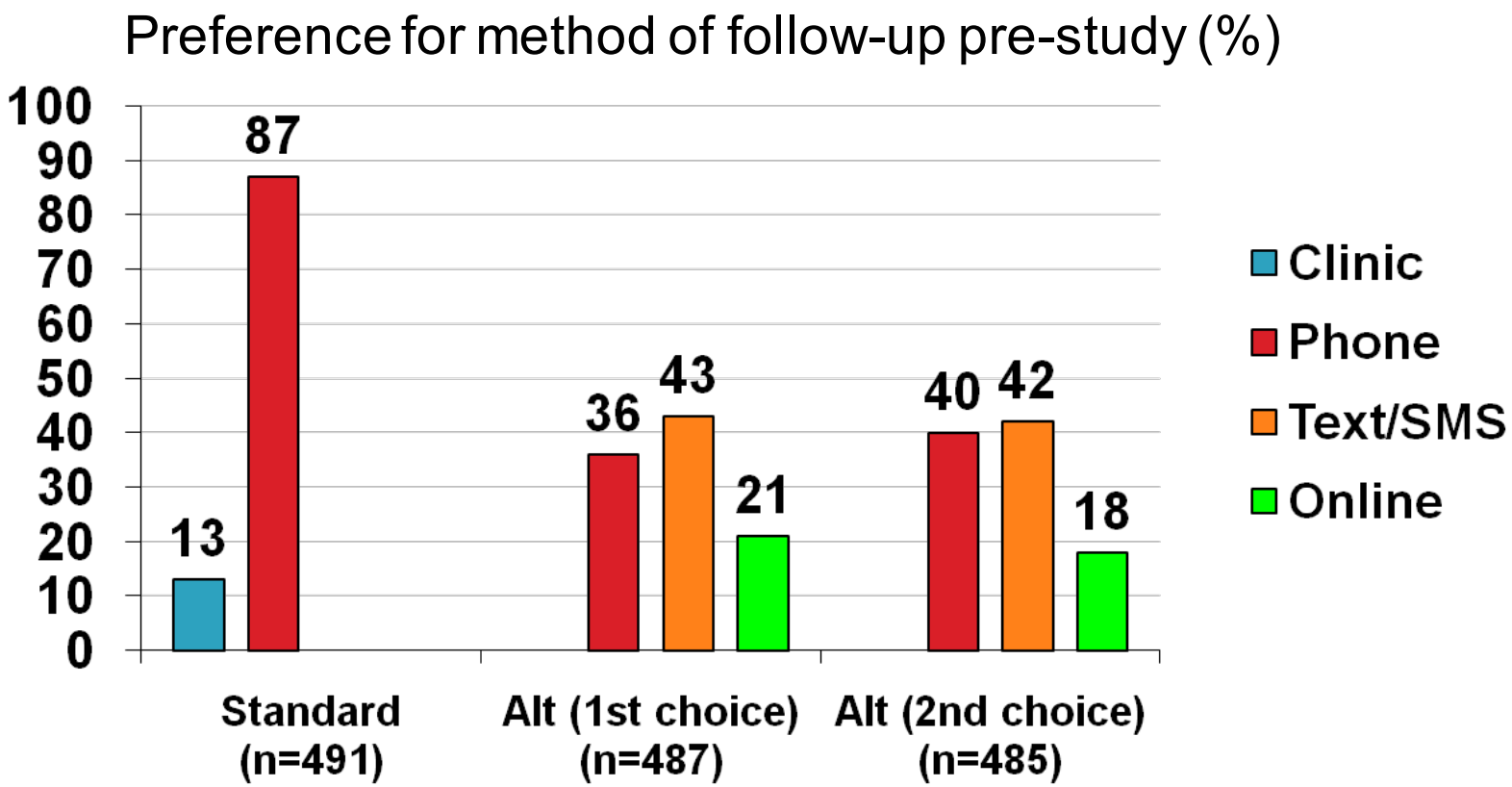
RUOK? Using new communication technologies to communicate with women after medical abortion

STANDARD OF CARE

- Follow-up by clinic staff
  - Scan in 1-2 weeks
  - Phone with high sensitivity (25 mIU/ml) home pregnancy test in 3 weeks if unable to return

ALTERNATIVE

- Follow-up call centre staff
  - Symptom questionnaire by web, text or phone call and
  - Low sensitivity (2000 mIU/ml) home pregnancy test in 2 weeks



Note: Women in alternative group asked to rank preference for follow-up method. Data rounded. Two women in alternative group did not indicate a second choice of method.

Follow-up % (n)

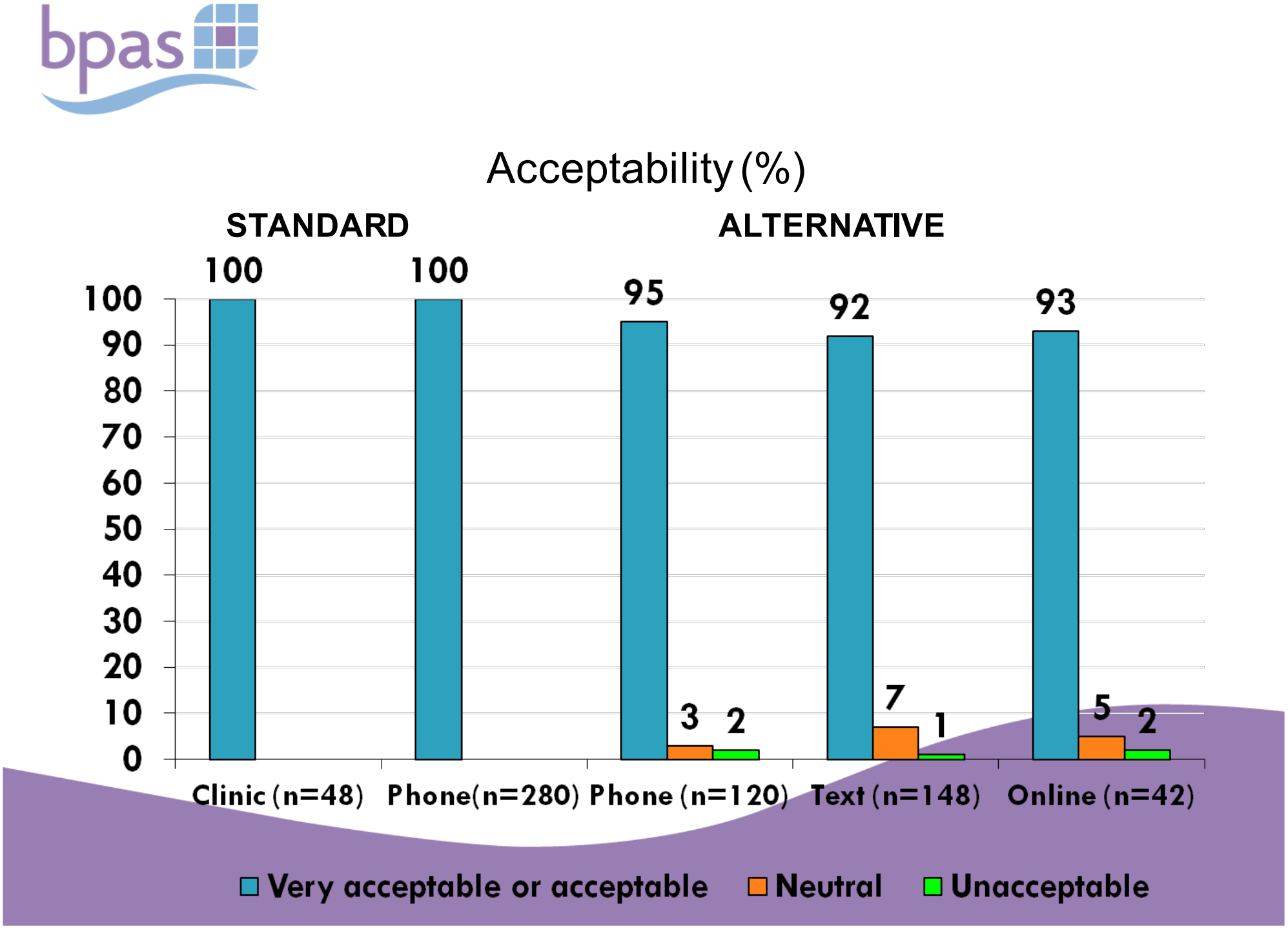
	Standard n=464	Alternative n=469		RR (95%CI)
Completed follow-up	72.6 (337)*	68.7 (322)		1.06 (0.97-1.20)
		Text at 2 weeks (n=203)**	**Phone at 2 weeks (n=167)**	**Online at 2 weeks (n=99)**
Completed follow-up		75.4 (153)	73.7 (123)	46.5 (46)

*83% did not attend scan visit and were followed up by phone

** Text vs. phone (p=0.37); text vs. online (p<.001); phone vs. online (p<.001).

Referrals to clinic

- Standard group
  - 28% (n=97) attended for scan as scheduled (n=28) or were referred after phone follow-up (n=39) mainly due to positive PT (74%)
  - 9% (n=33) additional care; 2 ongoing pregnancy
- Alternative group
  - 19% (n=66) referred; 20 (30%) had positive PT
  - 3.5% (n=12) additional care; 1 ongoing pregnancy


Acceptability (%)
STANDARD
ALTERNATIVE
100
100
95
92
93
3
2
7
1
5
2
100
90
80
70
60
50
40
30
20
10
0
Clinic (n=48)
Phone(n=280)
Phone (n=120)
Text (n=148)
Online (n=42)
Very acceptable or acceptable
Neutral
Unacceptable

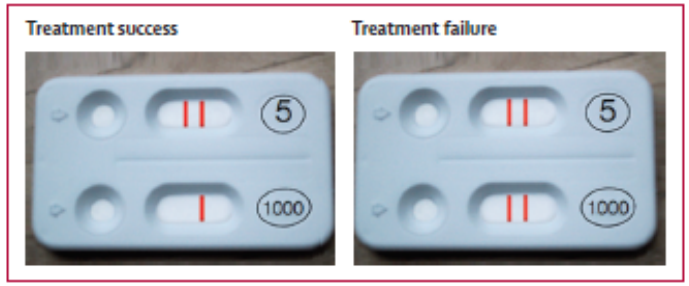
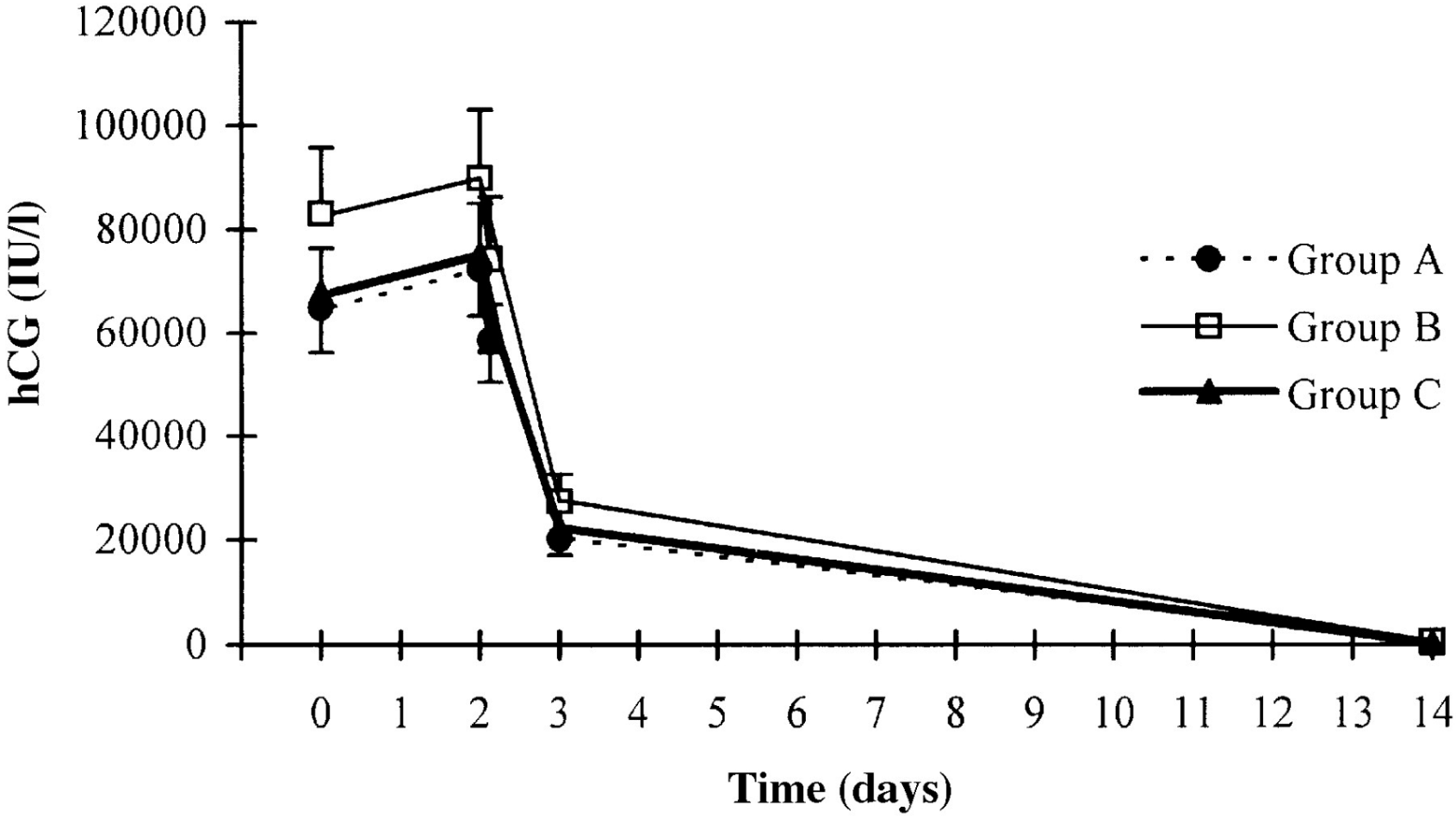


Figure 1: Semiquantitative urine human chorionic gonadotropin test, with two detection thresholds of 5 and 1000 IU/L

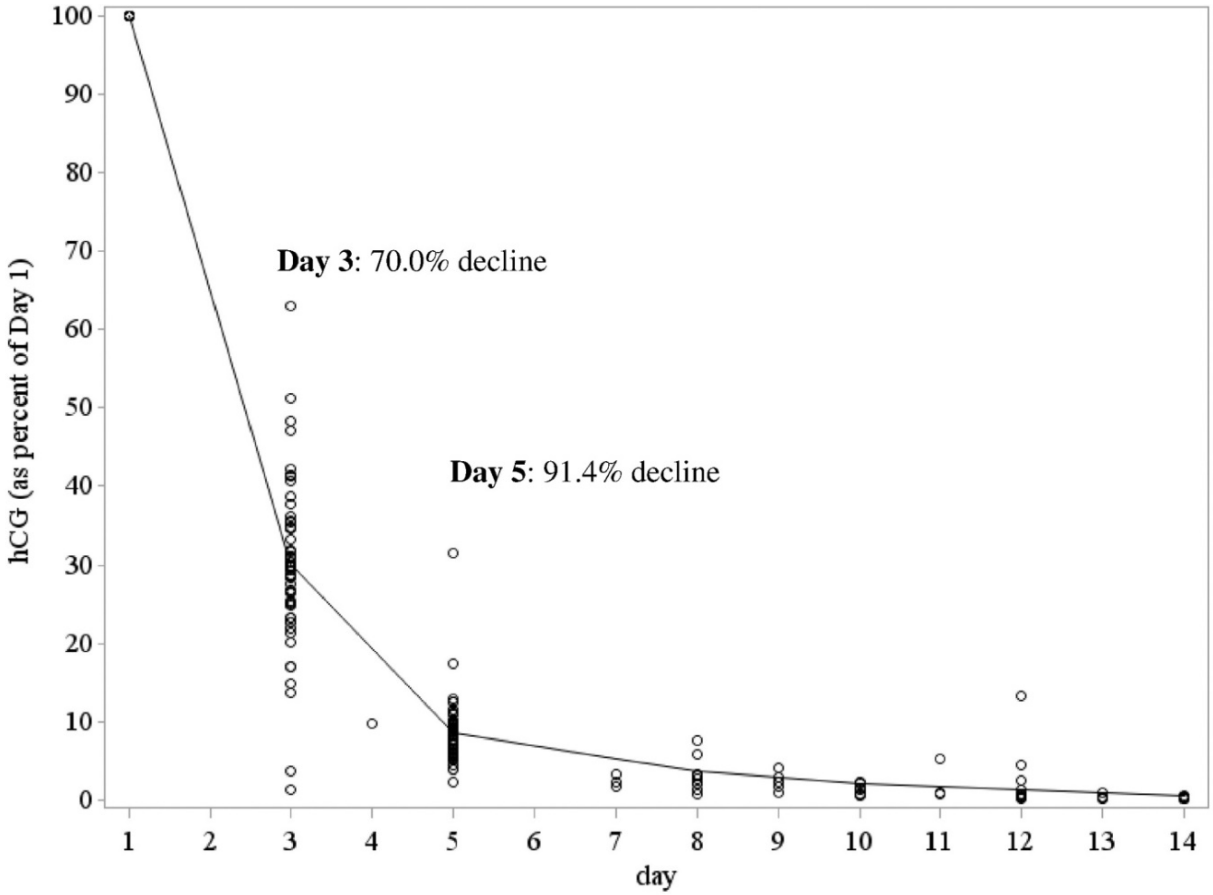
	Disease or Condition	No Disease or Condition
Test Positive	A True Positive	B False Positive
Test Negative	C False Negative	D True Negative

Serum levels of hCG following mifepristone and misoprostol administration



Honkanen et al. *Hum. Reprod*. 2002

Percent hCG decline after successful medical abortion

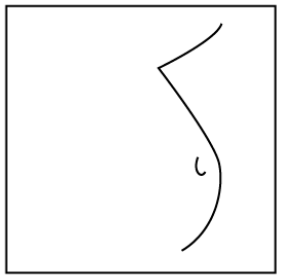


Pocius KD, et al. *Contraception* 2016

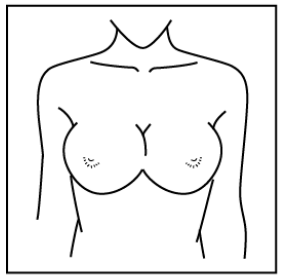
Contraception DOI: (10.1016/j.contraception.2016.09.007)

Please remember you might still be pregnant if you have any of the following:

Please contact us if you have not bled within 24 hours of treatment or if you have less than 4 days of bleeding, or:

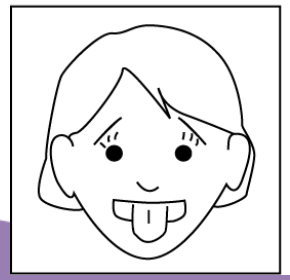


Tummy growing, or:



Tender breasts, or:

You do not have a period by 1 month after treatment.



Feeling sick, or:

Cameron ST at al *Contraception* 2014

And if an ultrasound is required?

Ultrasound after first trimester surgical evacuation

- 74 women scanned vaginally in week after surgical evacuation
  - 57 termination of pregnancy (8-12 weeks)
  - 10 incomplete miscarriage (8-12 weeks)
  - 7 missed miscarriage (7-12 weeks)
- 60 vacuum aspiration
- 14 dilatation and curettage

Bar-Hava I, et al. *J Ultrasound Med* 2001

Ultrasound after first trimester surgical evacuation

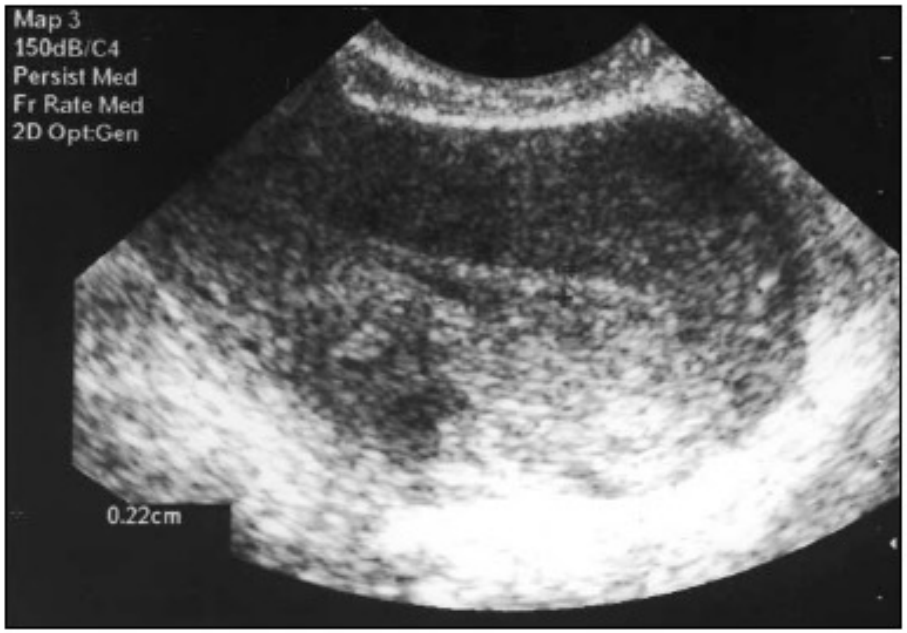


Figure 1. Endometrial stripe, 6.9 mm in thickness (pattern A).

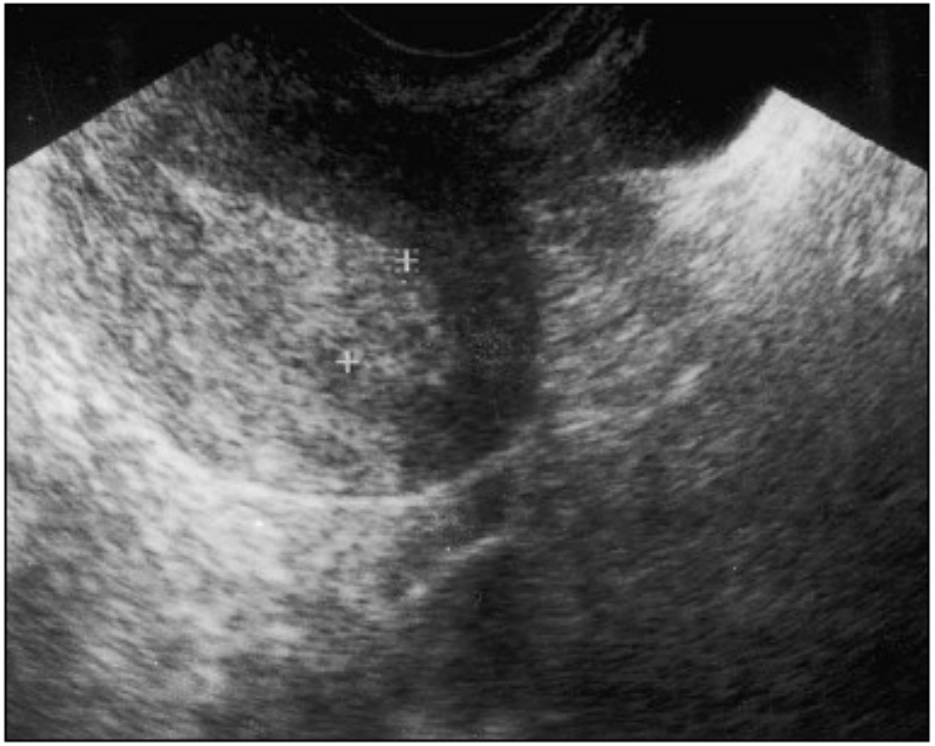
Pattern A

"thin, regular midline strip < 7mm"

Bar-Hava I, et al. *J Ultrasound Med* 2001

Ultrasound after first trimester surgical evacuaution

Figure 2. Hyperechoic endometrial stripe, 11.2 mm in thickness (pattern B).



Pattern B

"thick, hyperechoic midline stripe 7-19 mm"

Bar-Hava I, et al. *J Ultrasound Med* 2001

Ultrasound after first trimester surgical evacuation

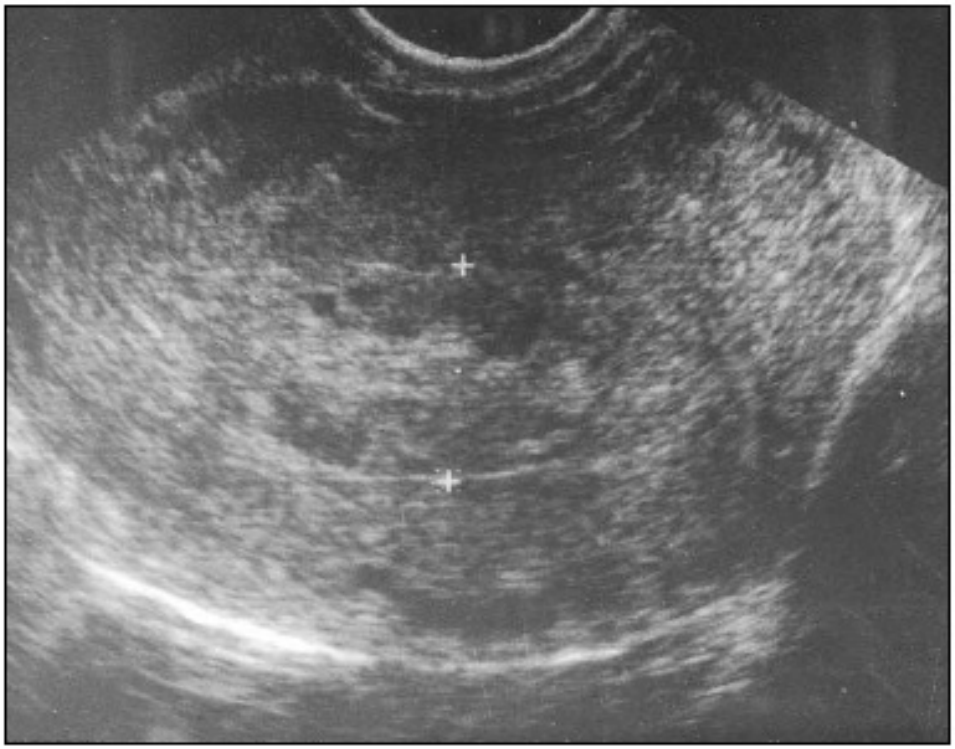


Figure 3. Endometrial stripe, 20.6 mm in thickness (pattern C).

Pattern C

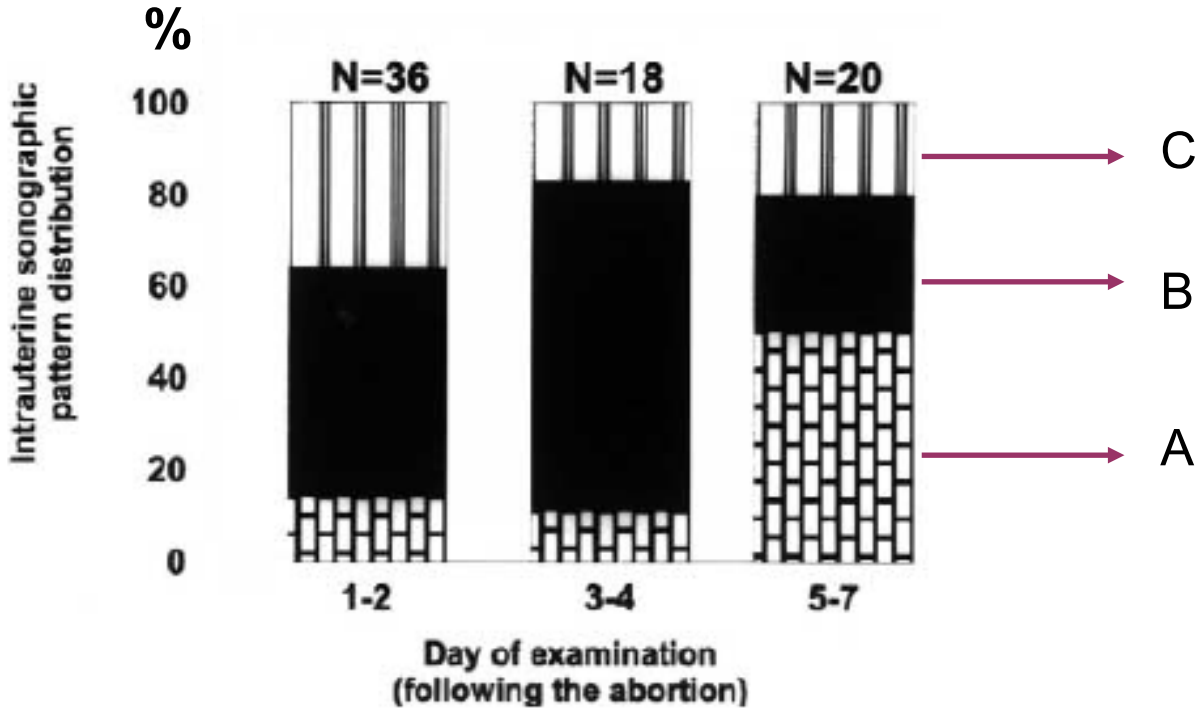
"midline stripe, 20 mm or thicker"

Or

"very irregular echogenicity at least 14 mm thick"

Bar-Hava I, et al. *J Ultrasound Med* 2001

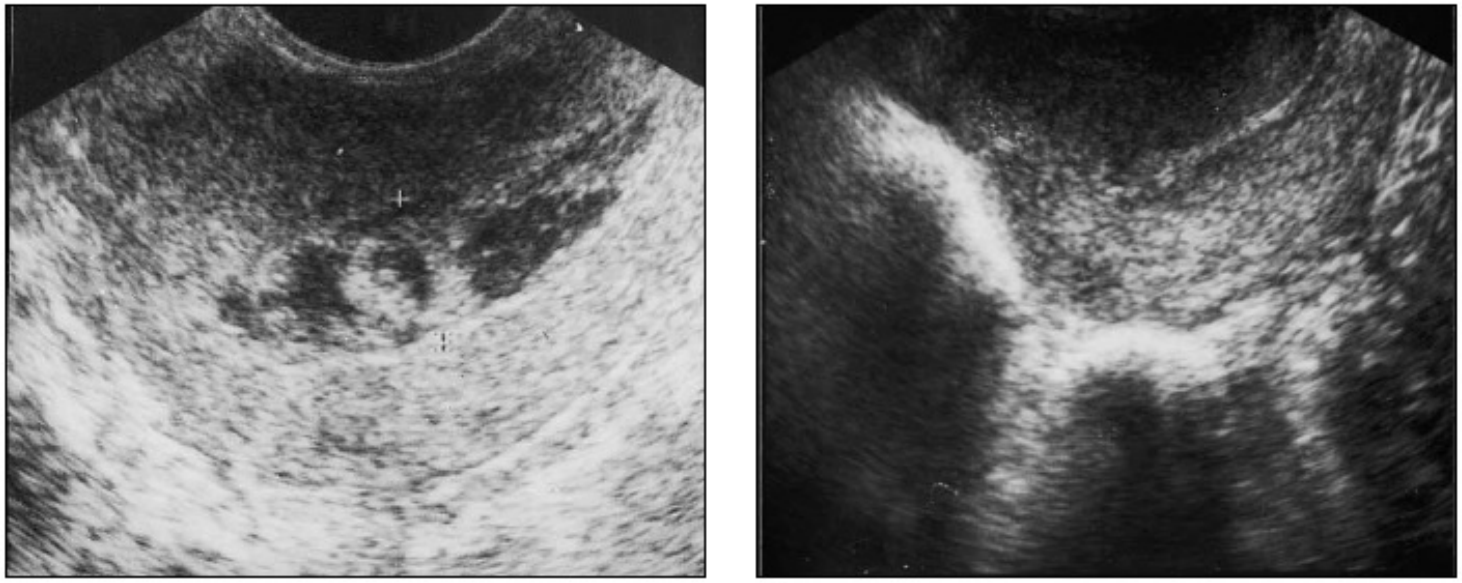
Ultrasound after first trimester surgical evacuation



77% had Pattern B or C in the week following evacuation.
Sonographic findings did not correlate with symptoms.
None required further surgical intervention.

Bar-Hava I, et al. *J Ultrasound Med* 2001

Pattern C, post menstruation



A B

Figure 5. Initial (**A**, pattern C) and repeated postmenstrual (**B**, pattern A) sonographic images of the intrauterine cavity in the same patient.

Extensive heterogeneous intrauterine material (18-61 mm) in 7 women (9.4%)
Post-menses all had normal-appearing endometrial stripes.

Bar-Hava I, et al. *J Ultrasound Med* 2001

Post surgical abortion uterus

- Seldom “empty”
- Wide variation in appearance
- Findings do not regularly correlate with symptoms

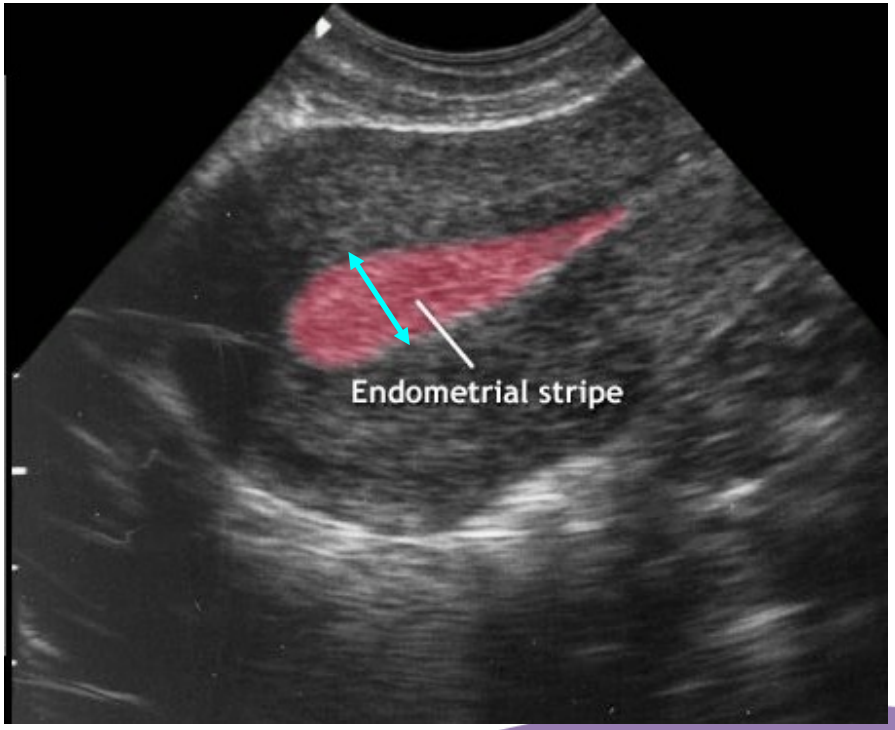
Endometrial thickness after medical abortion

- 80 women had medical abortion with tamoxifen and misoprostol
- Vaginal scan performed to confirm gestational sac absent
- Endometrial thickness measured at 24 hours and then weekly for as long as bleeding continued

Harwood B, et al. *Contraception* 2001

Endometrial thickness

- Anterior posterior measurement of thickest portion of endometrial stripe



Endometrial thickness after medical abortion

Time post-abortion	n	Mean EEC (mm)	Range (mm)
24 h	36	17.5	7.6–29.0
1 week	73	11.3	1.6–24.9
2 weeks	31	10.4	3.0–24.9
3 weeks	11	10.2	3.6–15.6

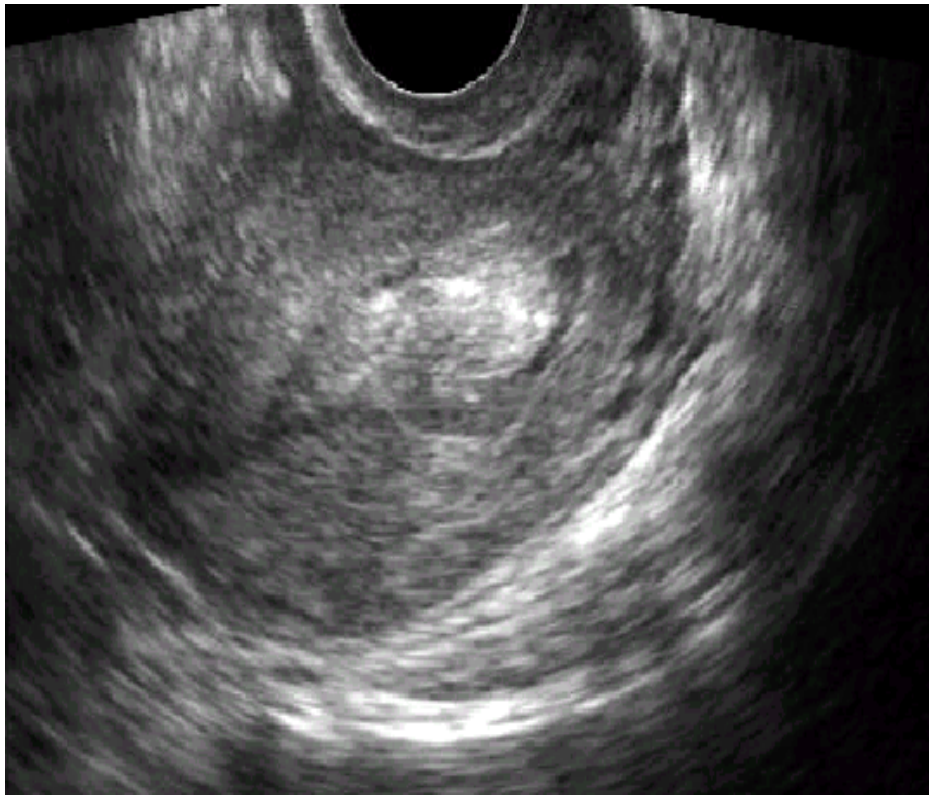
None required surgical intervention.

Harwood B, et al. *Contraception* 2001

Post medical abortion uterus

- Similarly, wide variation in endometrial thickness
- But, no correlation with need for surgery
- As long as gestational sac is gone

Harwood B, et al. *Contraception* 2001



- Use ultrasound to ask:
  - **"Is woman still pregnant?"**
- If yes, then ask:
  - **"Is pregnancy viable? "**
- If no:
  - **Treat the patient**
  - **Not the ultrasound**

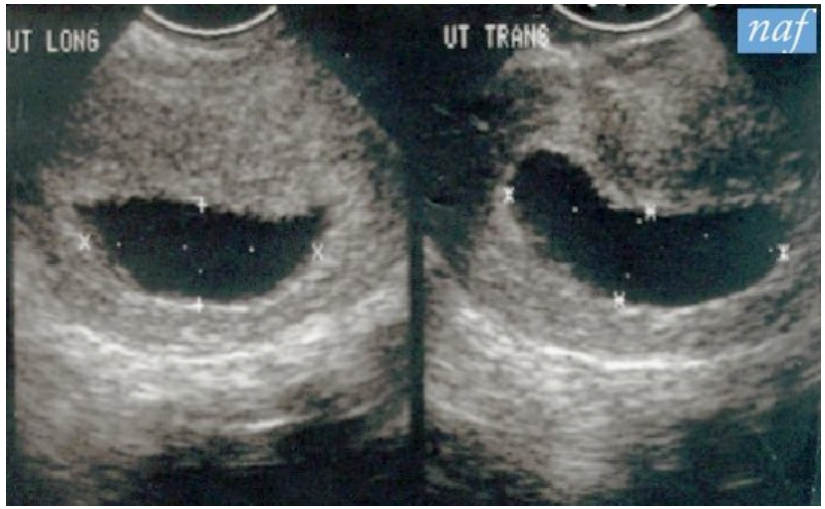
Managment of ongoing pregnancy

- Early exposure to misoprostol associated with increased risk congential anomaly (Mobius sequence)
- Completion of abortion recommended
  - Surgical (vacuum aspiration or dilation and evacuation) first line
  - Unclear if repeating entire medical abortion regimen is (as) effective
  - Second dose misoprostol successful in 36% with cardiac activity
    - However, at 1 week follow-up, about 2/3 will be non-viable

Reeves MF et al. *Contraception* 2008.

Management of retained non-viable pregnancy/sac

- Surgical evaucation if preferred
- Expectant management if stable and does not want intervention
- Second dose of 800 mcg vaginal misoprostol will result in completion in 74% with sac only; 54% pole with no cardiac activity



NICE 2012; Reeves MF et al. *Contraception* 2008.

Management of incomplete abortion

- Surgical evacuation if haemodynamically unstable, signs of infection, or preferred
- Expectant management if stable and prefers no intervention
- Medical managment with misoprostol
  - Second dose of same regimen common
  - 600 mcg oral or 400 mcg sublingual sufficient

Additional counselling and support

- If the resolution of bleeding and pain indicate that the miscarriage has completed during 7–14 days of expectant management, advise the woman to take a urine pregnancy test after 3 weeks, and to return for individualised care if it is positive.
- Advise women to take a urine pregnancy test 3 weeks after medical management of miscarriage unless they experience worsening symptoms, in which case advise them to return to the healthcare professional responsible for providing their medical management.

NICE 2012.

Thank you