



Early and very early medical abortion



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Conflict of interest statement : None

- A medical abortion in the very early period of pregnancy = Women seeking for abortion :

→ Before 32 days

→ HCG level < 1500 UI/l

→ No visible gestational sac on US

= Medical abortion in setting of pregnancy of unknown location

→ Before the date of expected menstruation :

« ultra » early abortion

What is the problem ?

- Rapid access to abortion services + no mandatory legal waiting period (ex: France)
- Providers refuse medical abortion because of the unknown location of the pregnancy :
→ the fear of ectopic pregnancy (EP)
- Negative consequences for women +++ :
 - Repeated visits and/or HCG and/or US
→ cost , confidentiality
 - Denying the right to women to access to immediate abortion
→ introducing a « waiting period for medical reasons »



1) Ectopic pregnancy is an exceptional event

- The ectopic pregnancy rate in the general population is approximately **20 per 1000** pregnancies
- However, ectopic pregnancy rates in studies of women who seek abortion are consistently lower.
- A study of surgical abortion in U.S. women with pregnancies less than 6 weeks of gestation found the ectopic pregnancy rate to be **5.9 per 1000** pregnancies
- The largest study of medical abortion patients published involved 16,369 women with pregnancies of 49 days of gestation or less, 21 of whom were excluded from the analysis because of an ectopic pregnancy, yielding an ectopic pregnancy rate of **1.3 per 1000** pregnancies

* Edwards J, Creinin MD. Surgical abortion for gestations of less than 6 weeks. *Curr Probl Obstet Gynecol Fertil* 1997;20:11– 9

* Ulmann A, Silvestre L, Chemama L, Rezvani Y, Renault M, Aguilhaume CJ, et al. Medical termination of early pregnancy with mifepristone (RU 486) followed by a prostaglandin analogue. Study in 16,369 women. *Acta Obstet Gynecol Scand* 1992;71:278–83

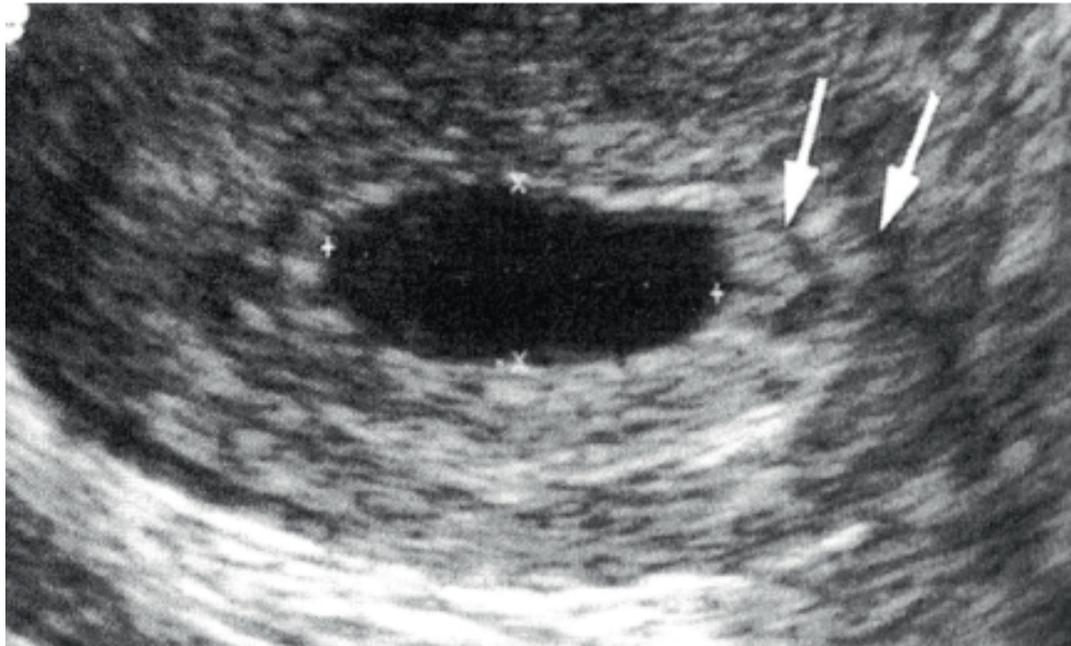
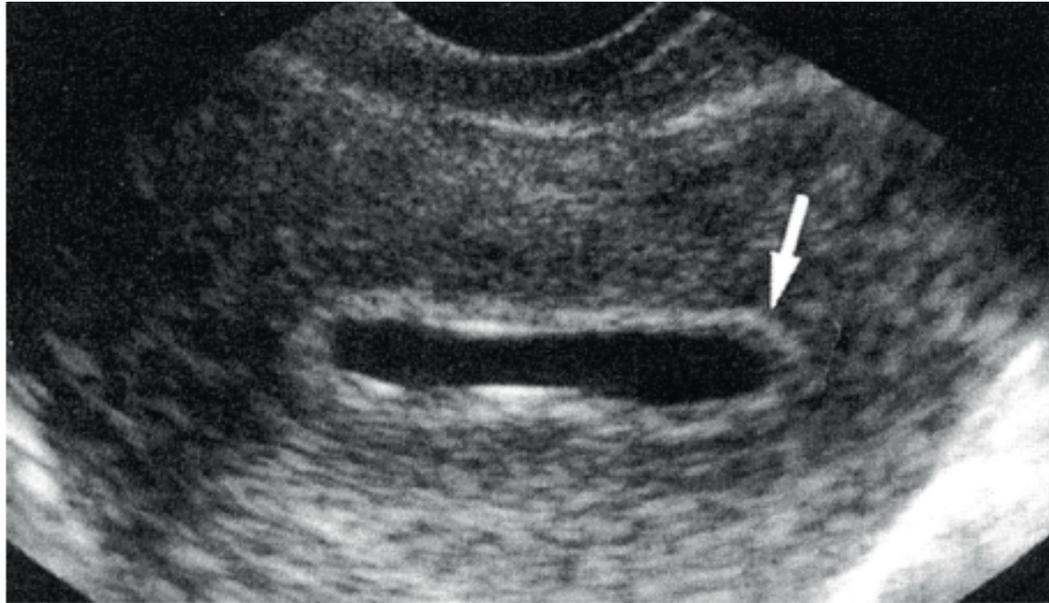
Significant Adverse Events and Outcomes After Medical Abortion

Kelly Cleland, MPA, MPH, Mitchell D. Creinin, MD, Deborah Nucatola, MD, Montsine Nshom, MPH, and James Trussell, PhD

- Planned Parenthood Health Centers
- 2009 – 2010
- Medical abortion until 63 days
- Antibioprophylaxis
- 233 805 medical abortions
- Undiagnosed Ectopic Pregnancy:
 - 7 per 100 000
 - 1 death (Mortality 0.4 pour 100 000)

2) There is no recommendation to screen for EP or to make a mandatory ultrasound in MA

- **No** recommendation to screen for EP in all pregnant women, especially in women who want to have a child
- **No** direct evidence that routine ultrasound improves either the safety or efficacy of abortion procedures
- **No** randomised control trials have been undertaken comparing the outcome of abortions with and without routine preprocedure ultrasound
- **No** indications suggesting that the use of mifepristone to terminate pregnancy is harmful to a patient who has an existing ectopic pregnancy
- **Ultrasound can falsely conclude that the pregnancy is located inside the uterus missing the diagnosis of EP**



3) Early medical abortion is the best way to make the diagnosis of early ectopic pregnancy !

- Clinical events are different
- **The curve of HCG evolution are very different** between an EP and a medical abortion with successful expulsion of the pregnancy
- **Benefits in case of EP** : medical management , conservative treatment avoiding surgery

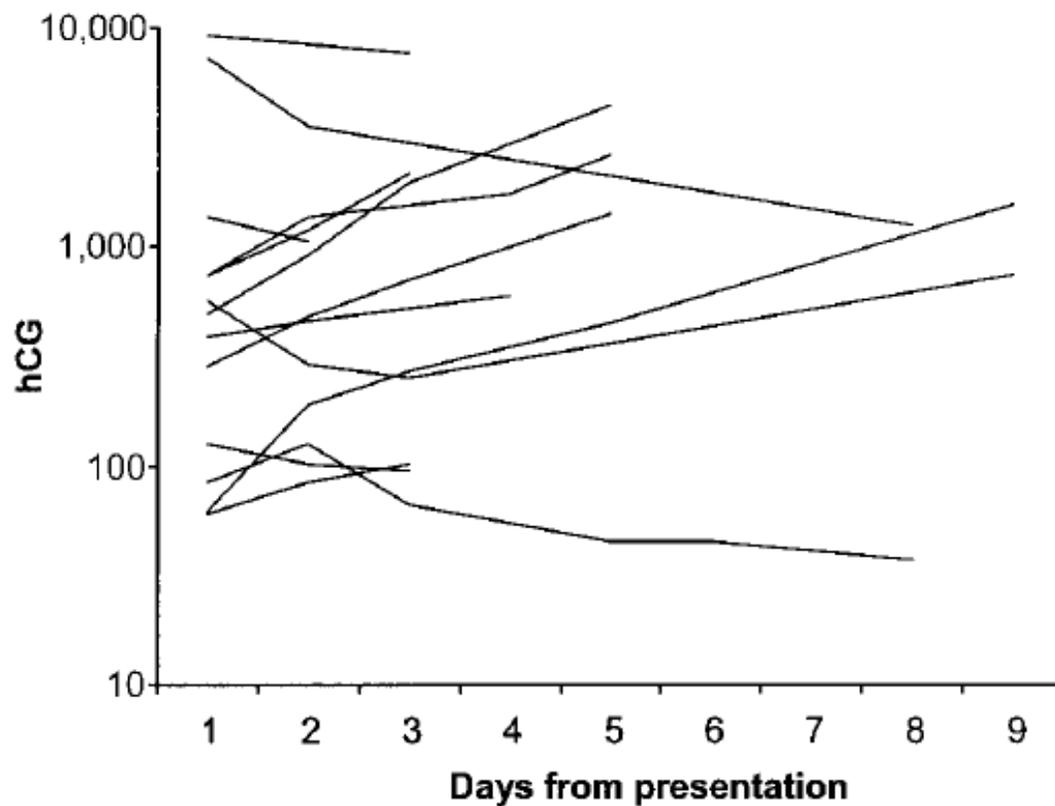
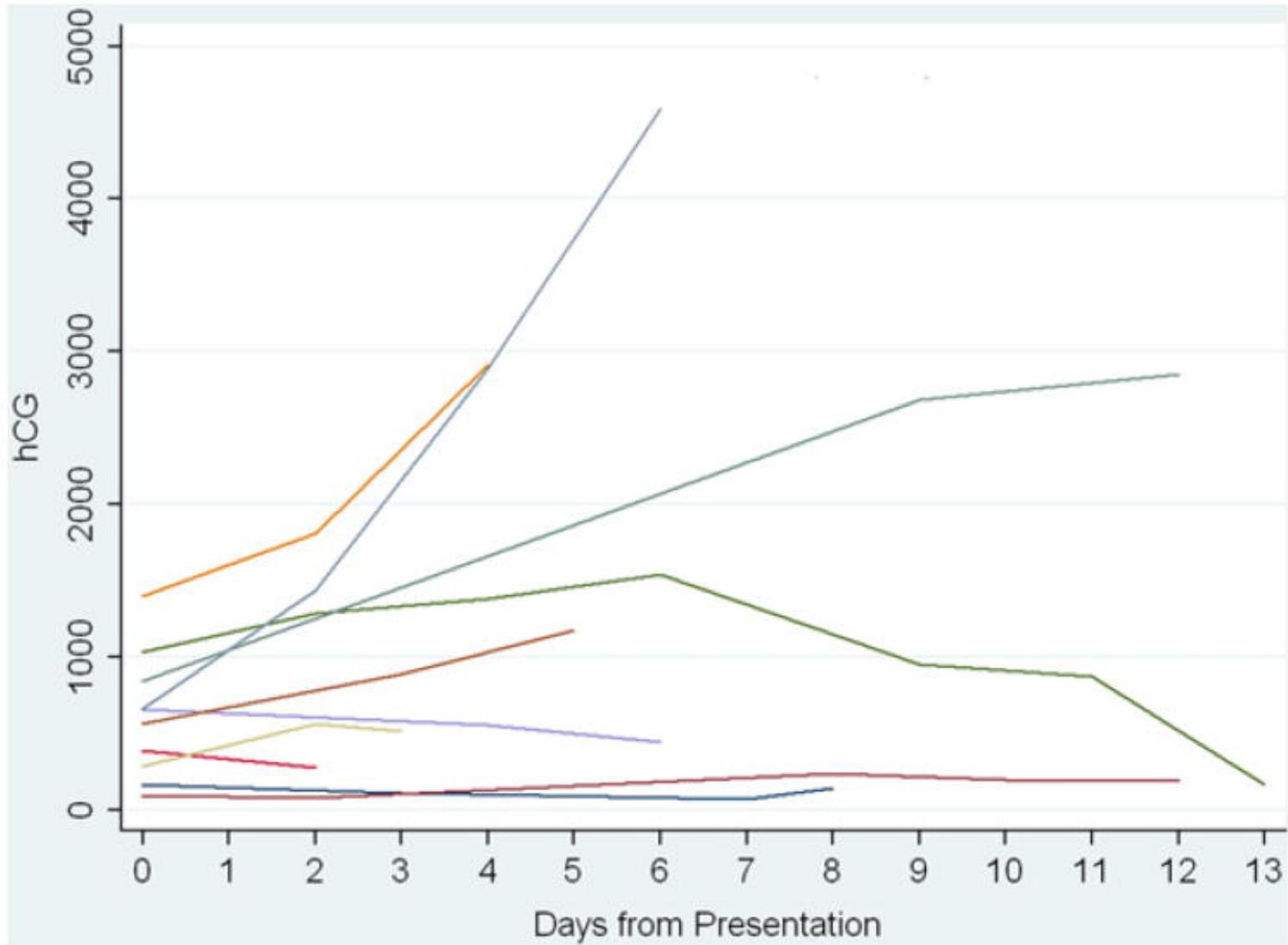
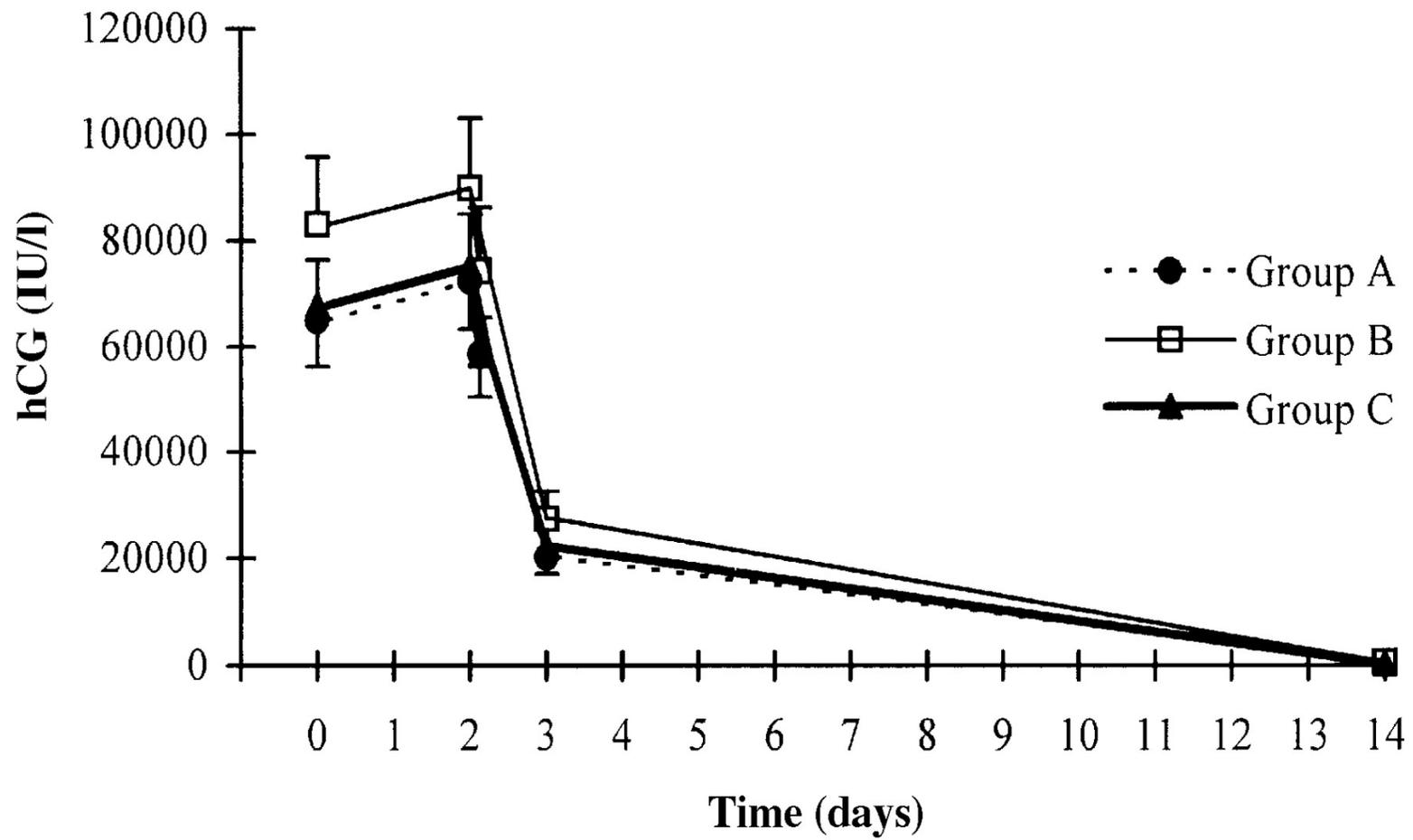


Fig. 1. Sample plots derived from serial human chorionic gonadotropin (hCG) values in women with diagnoses of ectopic pregnancy. Note that some levels initially decline, and others initially rise. There is no one pattern to describe these “curves.” Day of presentation is day 1.

Silva. hCG Curves in Ectopic Pregnancy. Obstet Gynecol 2006.



Katherine E. Dillon, et al. **How and when human chorionic gonadotropin curves in women with an ectopic pregnancy mimic other outcomes: differences by race and ethnicity.** *Fertil Steril.* 2012 Oct;98(4):911-6.



Serum human chorionic gonadotropin (hCG) trend within the first few days after medical abortion: a prospective study ☆,☆☆,★,★★

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Jennifer Fortin^c, Alisa B. Goldberg^{a,b,c}

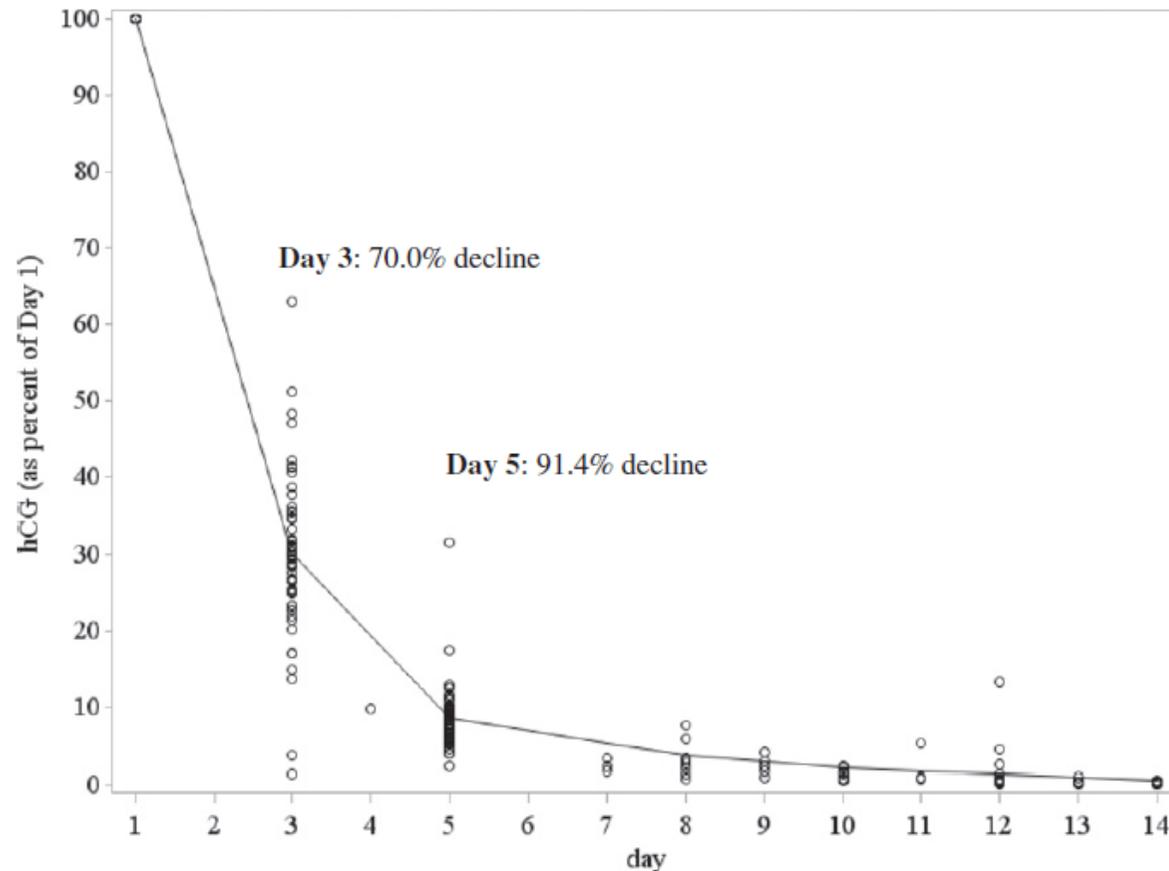
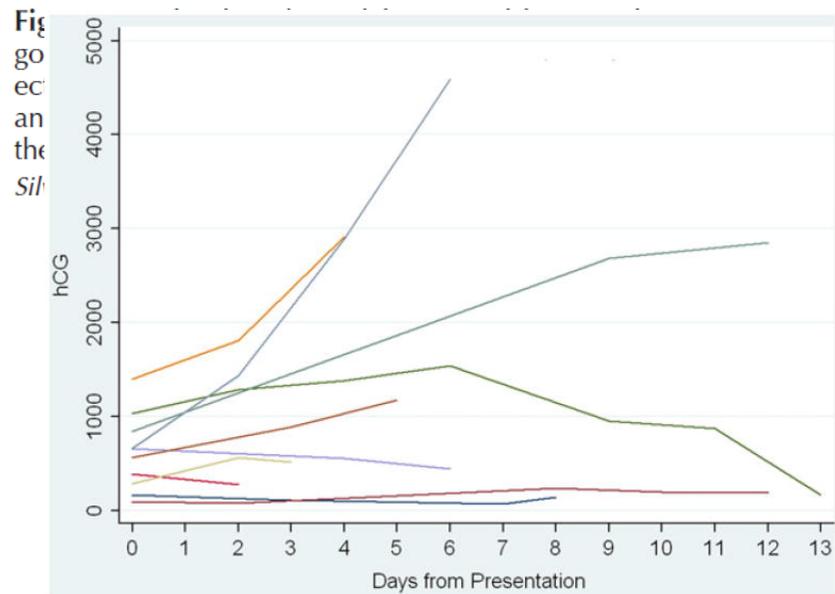
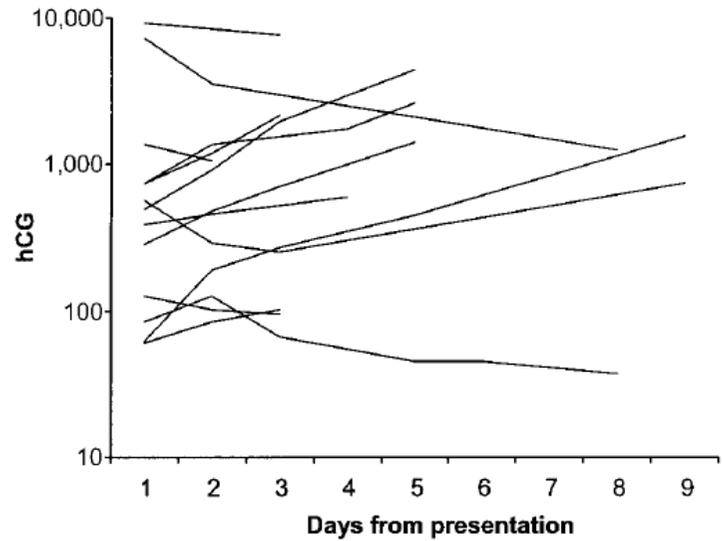


Fig. 2. Decrease in serum hCG from Day 1 among women with complete abortion, $n=57$.



Ectopic Pregnancy

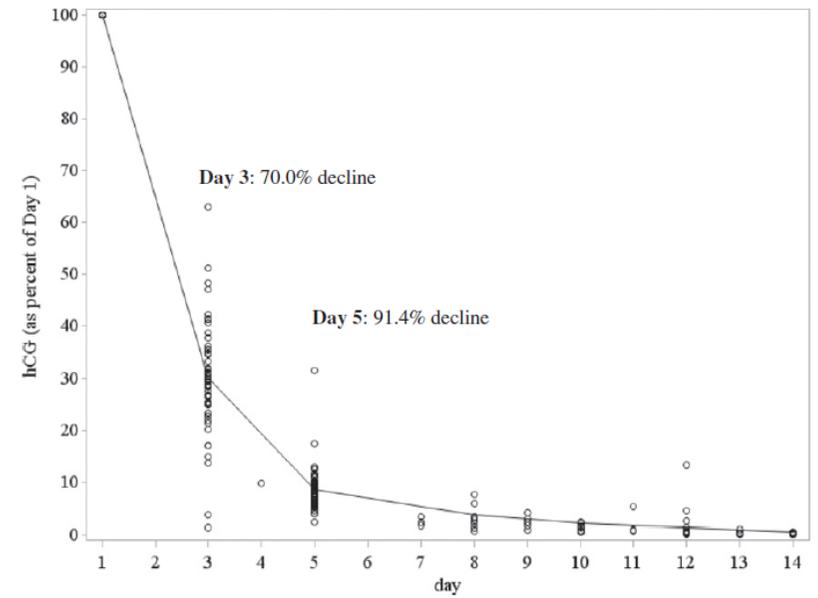


Fig. 2. Decrease in serum hCG from Day 1 among women with complete abortion, n=57.

Completed medical abortion



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The use of mifepristone for medical termination of pregnancy

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Accurate gestational assessment is essential to selecting optimal treatment options and regimens. Ultrasound examination is mandatory prior to termination of pregnancy to confirm gestation and exclude ectopic pregnancy; a diagnosis of ectopic pregnancy can be very difficult after attempted medical or surgical abortion.

The Care of Women Requesting Induced Abortion



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Ultrasound scanning

B 6.11 Use of **routine** pre-abortion ultrasound scanning is unnecessary.

Clinical Guidelines



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Medical management of first-trimester abortion ☆☆☆☆☆☆☆☆☆☆☆☆☆☆☆



7.5. Is ultrasonography useful in the medical management of abortion before treatment?

Although ectopic pregnancy in a population of women who seek early abortion is rare, women with significant medical risk factors or history (i.e., unilateral pain and vaginal bleeding) should have a pretreatment ultrasonography.

Medical Abortion

Medical Abortion in Setting of Pregnancy of Unknown Location

- *If risk factors or clinical features of EP are present and no intrauterine gestational sac is visualized, whatever the level of β hCG, further investigation is required to rule out EP before MA.*
- *If the serum β hCG level is > 2000 IU/L and no intrauterine gestational sac is visualized on ultrasound, further investigation is required before MA, regardless of risk factors and symptoms.*

- *In the absence of risk factors/clinical symptoms and no gestational sac, if the bhCG is ≤ 2000 IU/L, it is reasonable to proceed with MA. However, women should be informed of the risks and symptoms of EP and where to consult in case of emergency. Follow-up β hCG within 7 days is required. A decrease of 50% at 24 hours post-MISO or 80% at 7 days post-MIFE is expected; otherwise, EP should be ruled out.*

- Published evidence on MA in women with PUL is minimal (2 small studies with 800 mcg misoprostol vaginal or buccal)
- Both studies used serum HCG follow-up and considered a decrease of 50% by the first follow-up visit to exclude an ongoing pregnancy or EP
- In these studies, all EPs were detected
- **Success rates were 91% to 93%**

Goldstone P, Michelson J, Williamson E. Effectiveness of early medical abortion using low-dose mifepristone and buccal misoprostol in women with no defined intrauterine gestational sac. *Contraception* 2013;87:855–8.

Schaff EA, Fielding SL, Eisinger S, Stadalius L. Mifepristone and misoprostol for early abortion when no gestational sac is present. *Contraception* 2001;63:251–4.

Efficacy and safety of medical abortion using mifepristone and buccal misoprostol through 63 days^{☆,☆☆}

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Factors associated with successful medical abortion in women using mifepristone 200 mg and misoprostol 800 mcg buccally (N=13,373)

	Successful <i>n</i> (%)	Unsuccessful <i>n</i> (%)	OR	95% CI
Gestational age (days)				
22–28	539 (97.3)	15 (2.7)	0.72	0.41–1.25
29–35	1067 (98.8)	13 (1.2)	1.68	0.94–3.01
36–42	2465 (98.8)	30 (1.2)	1.65	1.09–2.50
43–49	4722 (98.1)	94 (2.0)	Ref	
50–56	3045 (96.9)	97 (3.1)	0.62	0.47–0.83
57–63	1228 (95.5)	58 (4.5)	0.42	0.30–0.58
Total patients	13,066 (97.7)	307 (2.3)		

Feasibility and effectiveness of unintended pregnancy prevention with low-dose mifepristone combined with misoprostol before expected menstruation

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Table II Outcomes for participants who completed the whole procedure ($N_2 = 650$).

Characteristic/ outcome	Pregnant ($N = 138$)	Non-pregnant ($N = 512$)
β -HCG (mIU/ml)	107.4 \pm 29.8 (10.8–624.7)	
Pregnancy outcome		
Complete abortion	98.6% (136/138)	
Ongoing pregnancy	1.5% (2/138)	

Alternatives

- Methotrexate can be used for MA as well as for treatment of EP
- Some providers have suggested it for women with no gestational sac on ultrasound and no evidence of EP as this regimen could manage both
- For very early pregnancies, early surgical abortion is also a viable alternative, as it may provide trophoblastic tissue, providing exclusion of EP.

So in practice ...

Evaluate risk factors of ectopic pregnancy

- Previous ectopic pregnancy
- Previous fallopian tubal surgery
- Pregnancy after M.A.P
- Tubal ligation
- IUD
- Previous PID
- Pain
- Bleeding

Inform women about symptoms
that require emergency consultation

- **Pain and bleeding** exist in medical abortion but also in the EP **but** pain characteristics are generally not the same
- **Symptoms of internal bleeding**
 - Dizziness, loss of consciousness, sudden tiredness
 - Tachycardia
 - Breathlessness
 - *Headaches*
 - *Thirst*

Early follow up by determination of HCG level

- Day 7 after mifepristone or sooner
- A decrease of 80 % of HCG is expected on day 7 (or 50% on Day 4 ?)
- First determination of HCG on Day 1 is needed
- Otherwise EP should be ruled out

Conclusion

- Very or ultra early medical abortion can be provided safely as long as :
 - Risk factors of EP are eliminated
 - Clear informations on the risk of complicated EP are given
 - Exclude women at risk to be lost in follow up
 - Early follow up by HCG determination on day 7

Take home message

Concerns about ectopic pregnancy should not be an obstacle to very early medical abortion with appropriate recruitment screening and procedure supervision