

A spiral-bound notebook with a light beige, textured cover. The spiral binding is on the left side. The text is centered on the page.

Abortion

Professor

Abdulrahim Rouzi


MB, ChB, FRCSC

Early “Life”

 Intercourse


 Fertilization

 Implantation

 Pre-embryo

 Embryo

 Fetus

 Viability

 Birth

Fertilization

- 📄 complex process which takes 24 hours after penetration of the oocyte (egg) by the sperm
- 📄 occurs in fallopian tube
- 📄 complete when pronuclei (23 chromosomes) of sperm and oocyte fuse to form a new cell called a zygote (46 chromosomes)

Stages of the pre-embryo . . .

📄 Zygote: one cell

📄 Blastomere: 2-8 cells, it takes 20 hours for the first cell division

📄 Morula: 8-16 cells. The morula travels out of the fallopian tube and reaches the endometrial cavity

📄 Blastocyst: multicellular mass of cells with a fluid filled center

Implantation

☰ Process of blastocyst adhering to the uterine wall. Slow process occurring 5 - 9 days after the beginning of fertilization.

☰ Three cell layers are formed:

- Ectoderm
 - brain, nerves, skin
- Mesoderm
 - cartilage, muscle, blood vessels, heart, kidneys
- Endoderm:
 - digestive tract, respiratory tree, liver, pancreas

Embryo and Fetus

Embryo

- 16 days after the beginning of fertilization until 8 weeks after fertilization.
- Organogenesis is complete

Fetus

- Completion of organogenesis until delivery

Pregnancy Dating

Days, weeks LMP

- Human gestation
- Conception
- Trimesters

Definitions

 Abortion

 Induced

 Complete Abortion

 Incomplete Abortion

 Threatened Abortion

 Inevitable Abortion

 Missed Abortion

 Septic Abortion


Abortion

☞ Termination of pregnancy before 20 weeks gestation calculated from date of onset of last menses

- Early Abortion: before 12 weeks
- Late Abortion: from 12-20 weeks

☞ Delivery of a fetus of weight less than 500 grams

Definitions . . .

 Induced Abortion: intentional medical or surgical termination of a pregnancy

- Elective: if performed for a woman's desires
- Therapeutic: if performed for reasons of maintaining health of the mother

Induced abortion: statistics . . .

1,180,000 abortions are reported to the CDC in 1997. This is constant since 1980

305 abortions/1000 live births

National abortion rate: 20/1000 women aged 15-44

79.7% of women obtaining abortions are unmarried

21 % of women obtaining abortions are younger 19 years old

55.2 % are younger than 24 years old

Statistics, continued

📄 53% of women in the United States having abortions have never had one before

📄 88% of women who abort are in the first trimester of pregnancy

📄 97% of women having first trimester abortions have no complications or post abortion complaints

📄 2.5 % have minor complaints that are handled in a physicians office


📄 <0.5% require additional surgery

Induced abortion: safety

📄 Risk of death from a legal abortion is
0.4/100,000

📄 Risk of death from a term pregnancy is
9/100,000

Induced Abortion: safety

 Risk of death for being an abortion provider
20/100,000

Gestational age and procedure

- 50% of abortion performed 8 weeks or earlier
- 12% of abortion performed past 12 weeks
- 1.4% of abortion performed past 20 weeks

First Trimester Abortion

- 📄 Early Uterine Evacuation (EUE),
Minisuction, Menstrual Regulation
- 📄 Suction Abortion, Vacuum Curettage
- 📄 Medical Abortion

Minisuction

Introduced in 1972 by Karman and Potts



Minisuction



- Requires early recognition of pregnancy. Performs abortions up to 7-8 weeks from LMP
- Cervical dilation not required, 6 mm diameter cannula used
- Simplest, safest, least expensive
- examine aspirated tissue is essential



Dilatation and curettage (D&C)



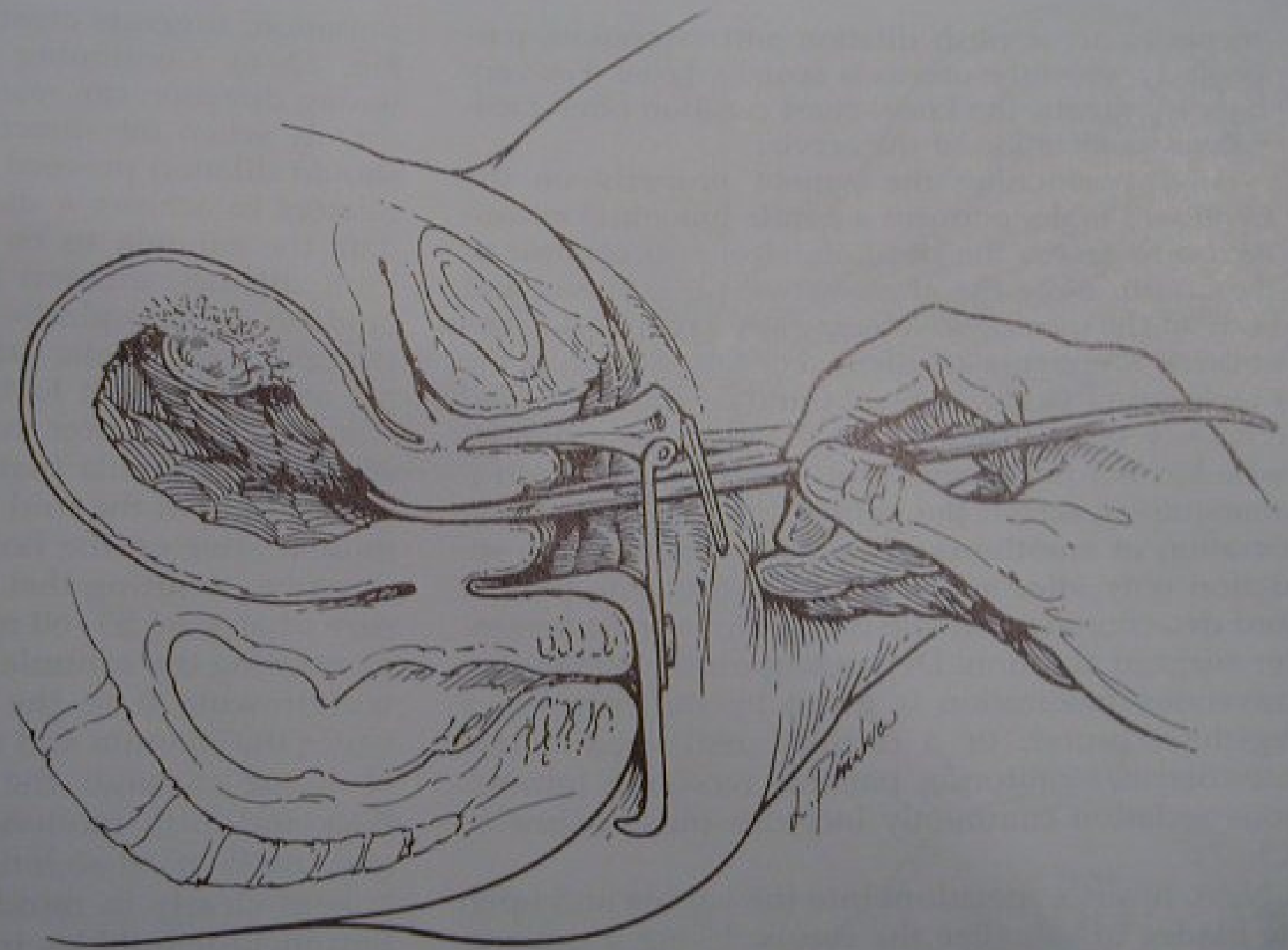
- ❏ Removal of pregnancy contents by some mechanical means
- ❏ Vacuum most commonly used
- ❏ 12-13 weeks is the upper limit of gestational age
- ❏ Usually performed in free standing clinics

D&C (vacuum curettage)



- ❏ The cervix must be dilated to permit larger diameter suction curettes
- ❏ Premedication with NSAID
- ❏ Local (paracervical block), spinal, conscious sedation, or general anesthesia

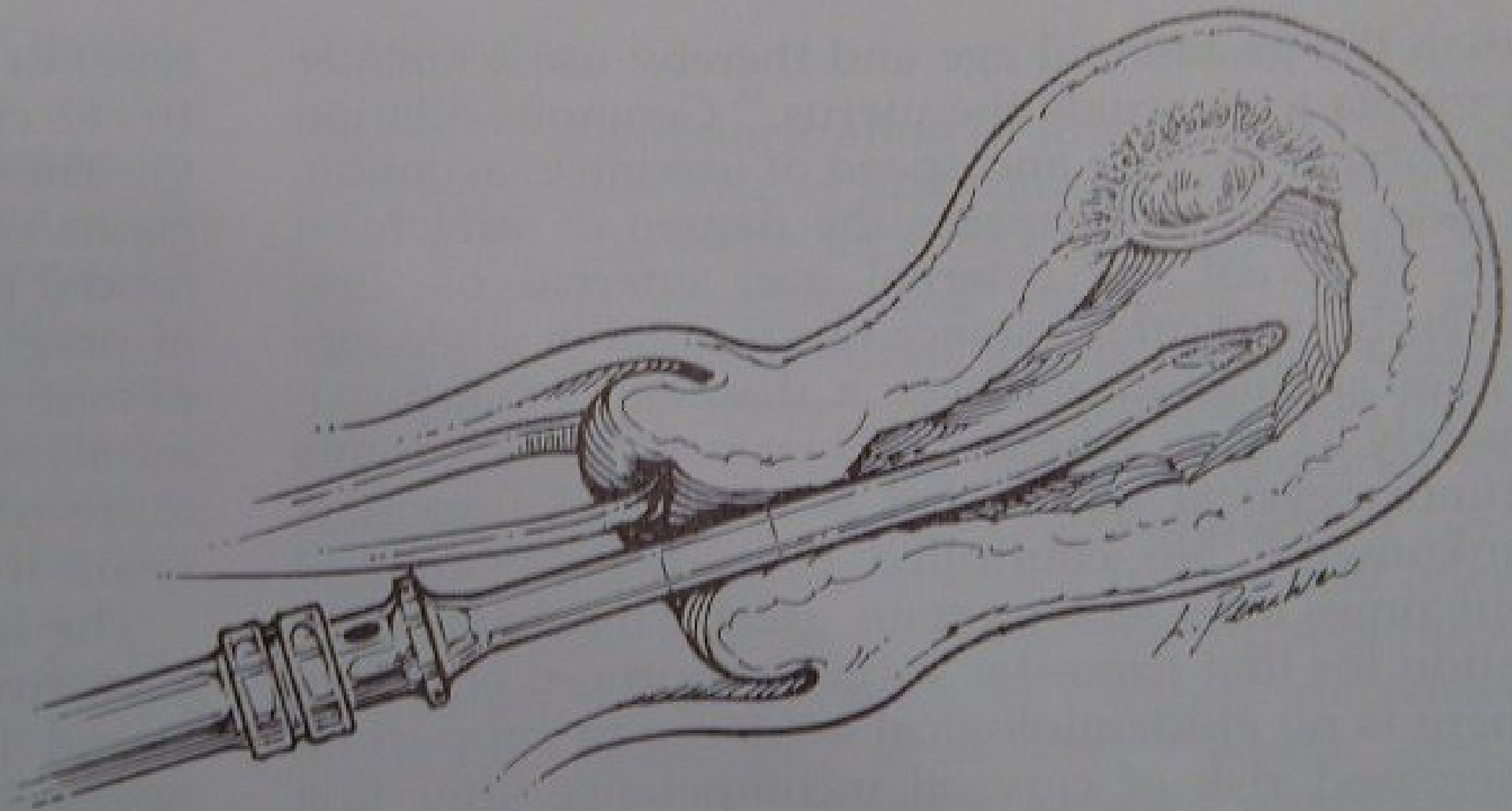




ne cer-
te
e di-

the
ine
ue).
s rest
but-
t
os.

... the patient's questions and concerns





1. 11. 1. 2. requiring fewer in-

Medical Abortion

Mifepristone (RU486)

- analogue of progestin norethindrone
- strong affinity for the progesterone receptor, acting as an antagonist
- a single oral dose given to women 5 weeks or less produces abortion in 85% of cases

Medical Abortion - politics

RU486 - Mifepristone

- developed in 1980's
- approved for use by French government 1988
 - one day later manufacturer withdrew it from the market succumbing to international boycott
 - French government ordered redistribution
- Prohibited in US during Reagan and Bush
- Ban lifted by Clinton, clinical trials, preliminary FDA approval 9/96
- Final approval stalled secondary to inability to manufacture and distribute until 9/2000

Mifepristone protocol

- 📄 Women less than 49 days LMP with confirmed β -hCG
- 📄 600mg mifepristone on day 1
- 📄 On day three, return for prostaglandin, Misoprostil 400 mcg orally
- 📄 Patient remain in clinic four hours, during which time expulsion of pregnancy usually occurs

Alternative Regimens

 200 mg Mifepristone

 800 mcg Misoprostil vaginally

Medical Abortion in the US

- 📄 Women less than 49 days LMP with confirmed pregnancy
- 📄 Methotrexate 50 mg/m² on day 1
- 📄 Misoprostol 800mg intravaginally on day 5,6, or 7, repeat x 1 in 48 hours if pregnancy persists
- 📄 Abortion off site in 1-5 days. Surgical intervention if pregnancy persists to day 29

Surgical vs. Medical: pro vs. con

Patient perspective:

Private

More sense of
autonomy

“More natural”

Earlier intervention
unwanted pregnancy

Longer process with
unclear endpoint

More pain

More bleeding

Anxiety regarding
abortion off site

Surgical vs. Medical: pro vs. con

Provider perspective:

☞ Less skill needed to provide

☞ Methotrexate also treats ectopic pregnancy

☞ Increased anxiety re: off site management

☞ More unscheduled care: calls, ER visits

☞ Need to guard against unnecessary intervention

☞ Limited to 49 days LMP

Second Trimester Termination

- ☞ Dilatation and evacuation (D&E)
- ☞ Intrauterine injection of abortifacients
- ☞ Prostaglandin vaginal suppositories
- ☞ High dose oxytocin
- ☞ Hysterotomy

D & E

- 📄 Mechanical and suction removal of formed pregnancy after cervical dilation
- 📄 Technically more difficult than earlier suction procedures
- 📄 Associated with fewer complications than instillation and suppository methods
- 📄 General anesthesia is not required

MILEX

Dilateria

L A M I N A R I A J A P O N I C A

**A CERVICAL
DILATOR WITH
MORE THAN A
CENTURY
OF USE.**

HAND FABRICATED TO MAINTAIN
MAXIMUM PHYSICAL CHARACTERISTICS
OF LAMINARIA JAPONICA.
NOT LATHE PROCESSED.



Intrauterine injection of abortifacients

- ☞ Prostaglandin, hypertonic saline, hypertonic urea are introduced by amniocentesis
- ☞ Fetus and placenta are aborted vaginally
- ☞ Osmotic dilators are used to decrease time to delivery and decrease complications

Prostaglandin suppositories

📄 20 mg suppositories of PGE2 typically given q 3 hours

- mean time to induction 13.4 hours, with 90% aborting by 24 hours
- GI side effects: 39% vomiting, 25% diarrhea
- Fever: temperature elevation of 1 degree c

📄 Prostaglandin F2alpha 250 mg IM q 2 hours

- mean time to abortion 15-17 hours, with 80% aborting by 24 hours
- GI side effects: 83% vomiting, 71% diarrhea

📄 Misoprostil (PGE1)

High Dose Oxytocin

📄 As effective as PGE2 when used in appropriate doses


📄 Risk of water intoxication

Hysterotomy

📄 Surgical method to remove pregnancy abdominally (mini-cesarean section)

📄 Other methods are preferred

Complications - rates

 Varies as a function of the gestational age they are performed

– Major complications:

- 0.25% < 7 weeks
- 1% < 12 weeks
- 2% over 12 weeks

Complications - immediate

☞ Complications of local anesthetic

☞ Cervical shock

☞ Cervical lacerations

☞ Uterine perforation

☞ Hemorrhage

☞ Post abortal syndrome

Complications - delayed

Bleeding

- retained products

Infection

Continued pregnancy

- ectopic
- intrauterine