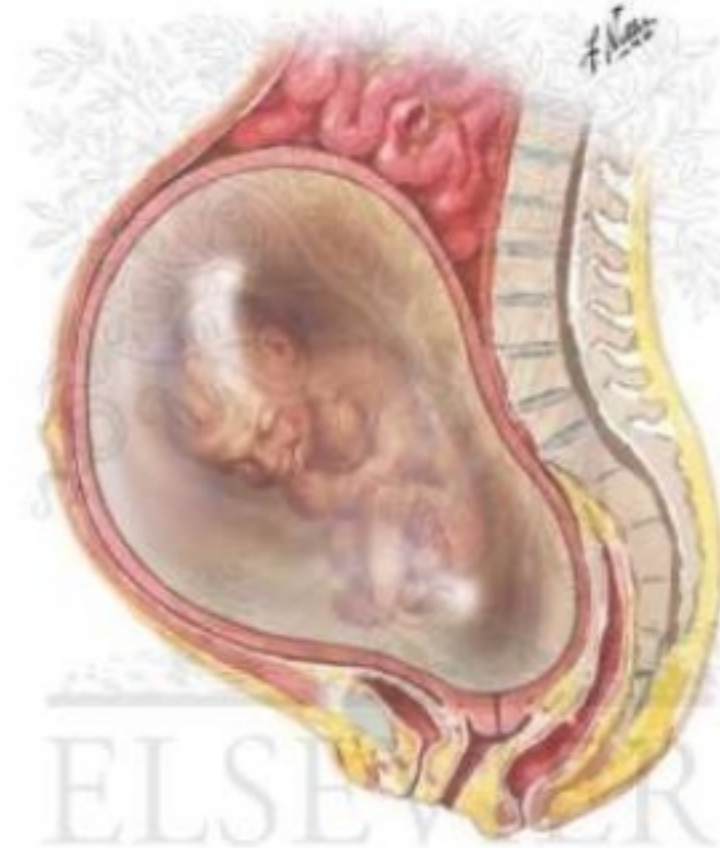


DISORDERS OF AMNIOTIC FLUID- oligohydramnios



© ELSEVIER, INC. - NETTERIMAGES.COM

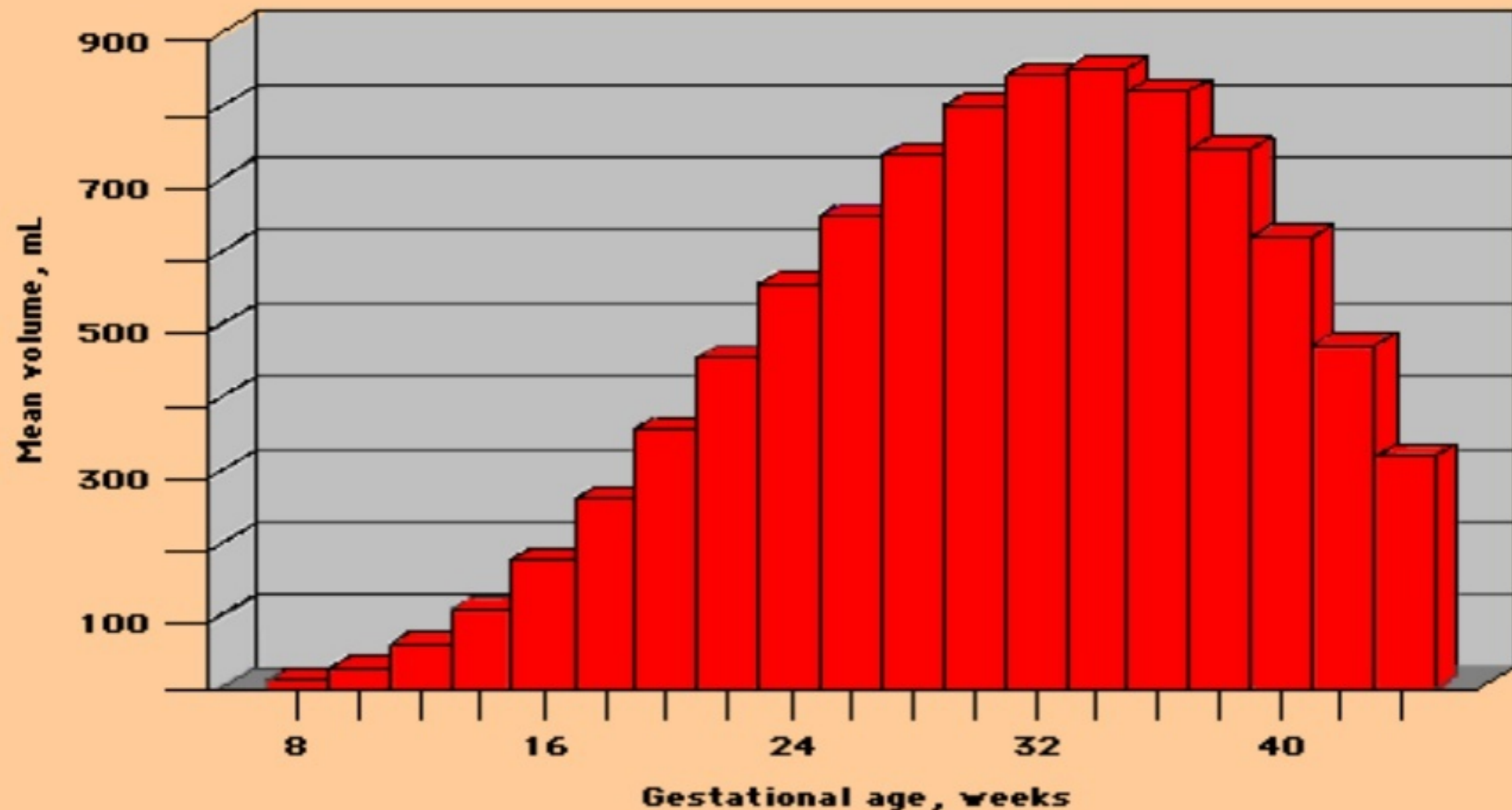
DR.RUPAL

Contents

- Physiology of amniotic fluid
- Normal volume of AF in varying gestation
- Definition of oligohydramnios
- Incidence & etiology
- Diagnosis
- Management

PHYSIOLOGY OF AMNIOTIC FLUID

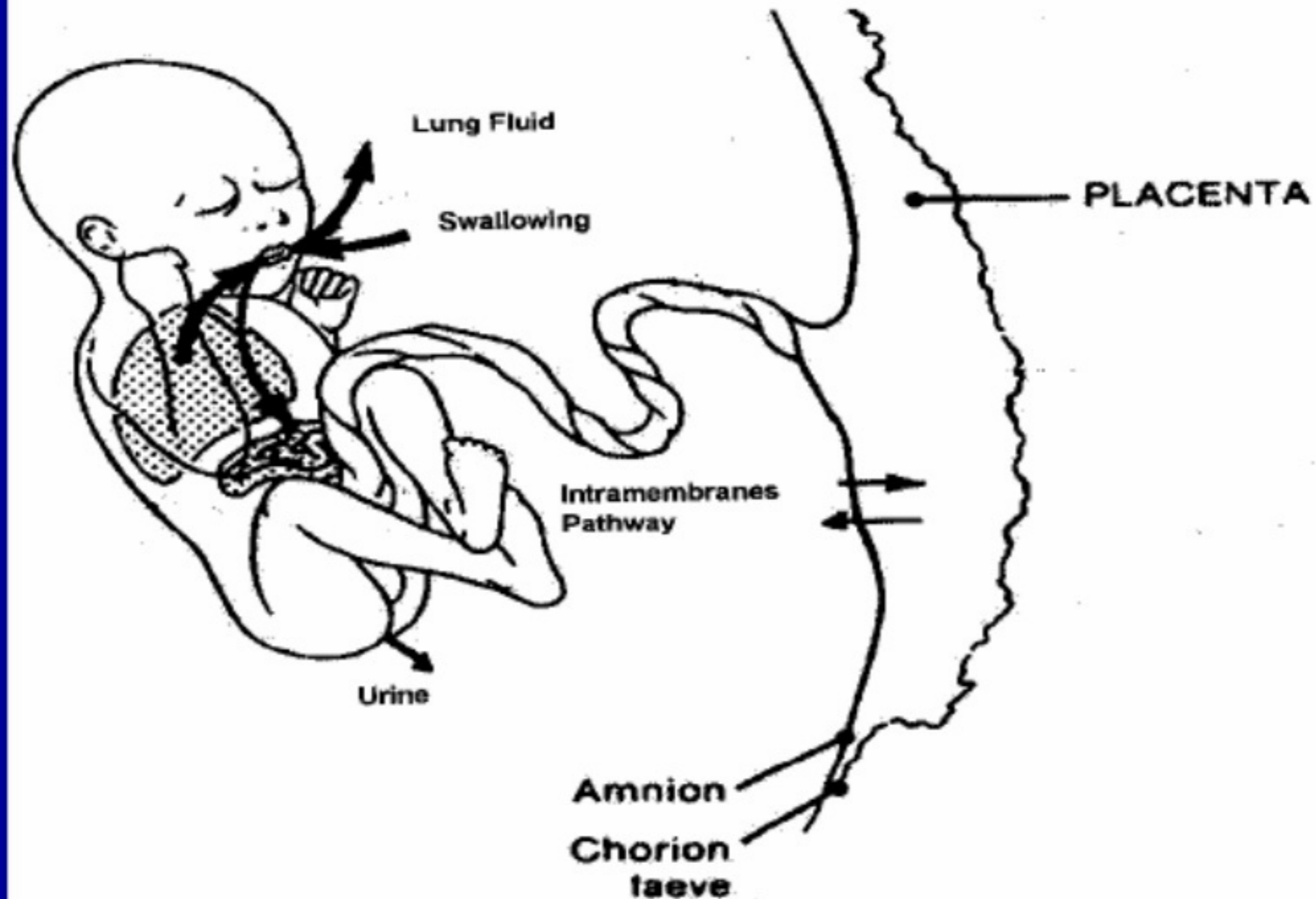
Amniotic Fluid Volume During Normal Pregnancy†



† Data from Brace, RA, Wolf, EJ, Am J Obstet Gynecol 1989; 161 : 382.

Amniotic Fluid Circulation

AMNIOTIC FLUID



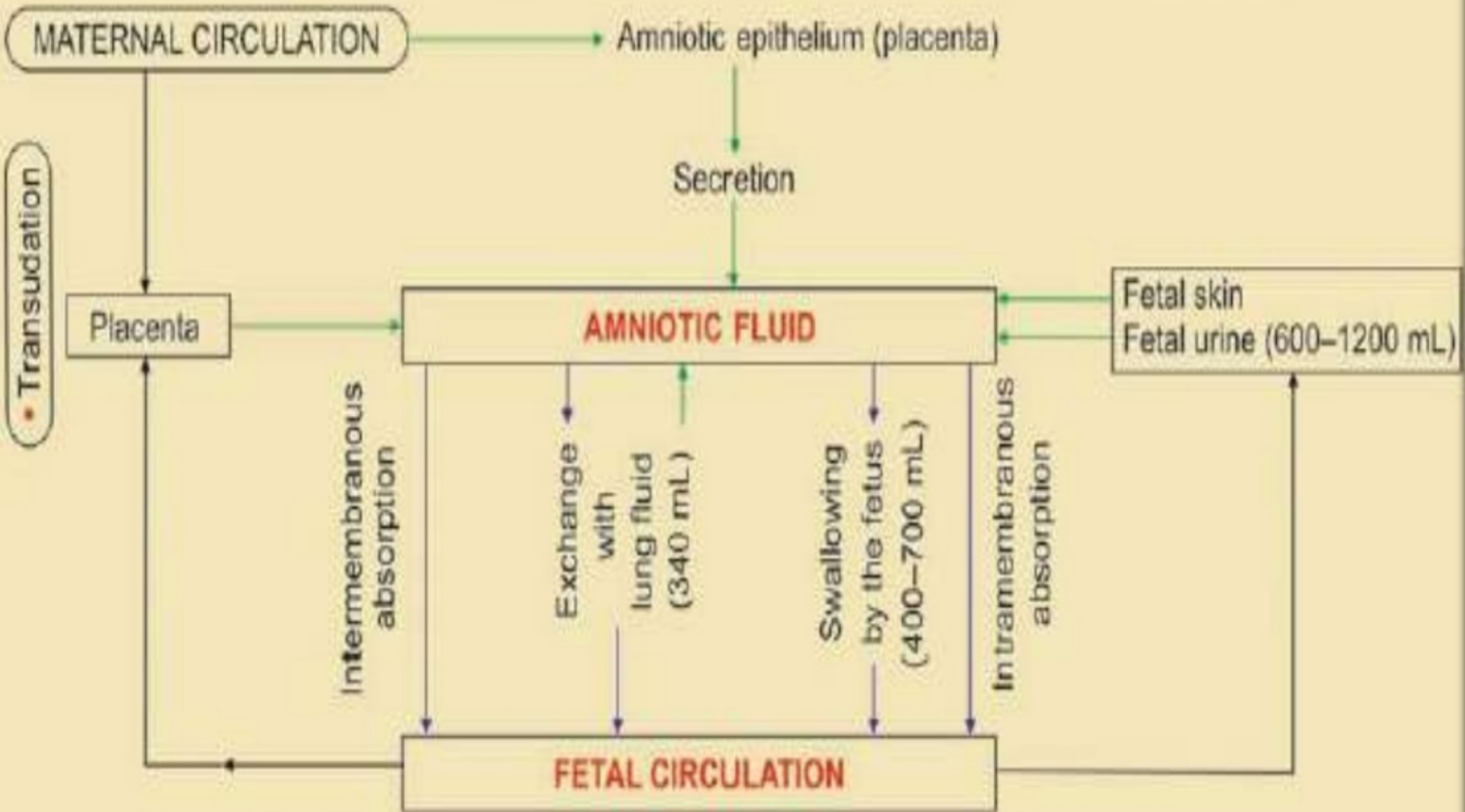
PRODUCTION

- ◆ **Transudation** of maternal serum across the placental membranes
- ◆ **Transudation** from fetal circulation across the umbilical cord or placental membranes
- ◆ **Secretion** from amniotic epithelium
- ◆ **Transudation** of fetal plasma through the highly permeable **fetal skin** before it is keratinized at 20th week
- ◆ **Fetal urine** — daily output at term is about 400–1200 mL
- ◆ **Fetal lung** that enters the amniotic cavity to add to its volume.

REMOVAL

- **Fetus swallows** about 400–700 mL of liquor every day every day.
- **Intramembranous absorption** of water and solutes (200–500 mL/day) from the amniotic compartment to fetal circulation through the fetal surface of the placenta.

SCHEME SHOWING THE SOURCE AND CIRCULATION OF AMNIOTIC FLUID



NORMAL AMNIOTIC FLUID VOLUME

Weeks Gestation	Fetus (g)	Amniotic Fluid (ml)	Placenta (g)
16	100	200	100
28	1000	1000	200
36	2500	900	400
40	3300	800	500

DEFINITION

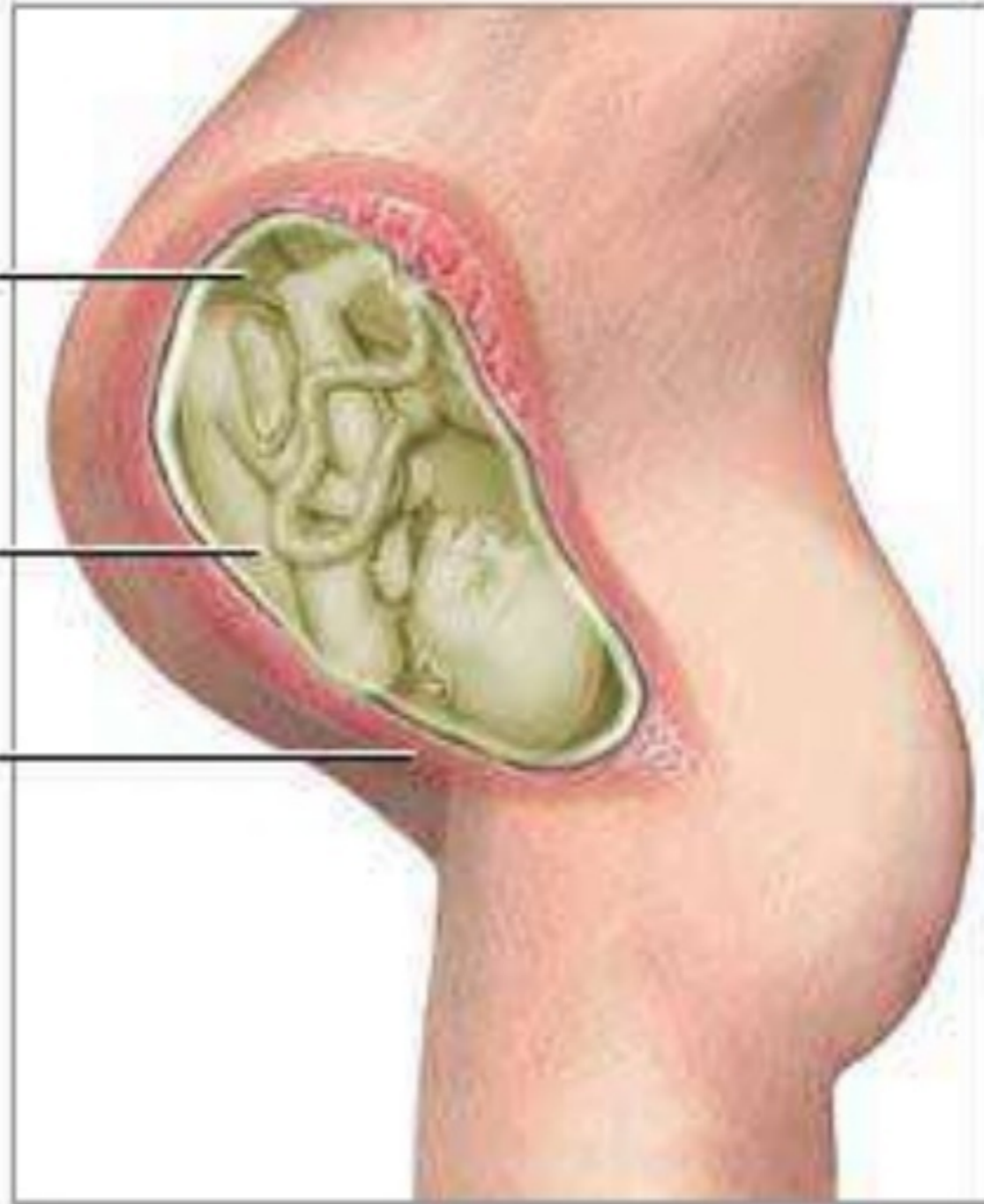
- AMNIOTIC FLUID VOLUME < 5 th percentile for gestational age
- AMNIOTIC FLUID INDEX < 5
- SINGLE VERTICAL POCKET < 2 cms
- Amniotic fluid volume of less than 500 mL at 32-36 weeks' gestation



Amniotic
fluid

Fetus

Uterus



INCIDENCE

0.5 - 5%



AETIOLOGY

FETAL

- PROM (50%)
- CHROMOSOMAL ANOMALIES
- CONGENITAL ANOMALIES
- IUGR
- IUFD
- POSTTERM PREGNANCY

PLACENTAL

- CHRONIC ABRUPTION
- TTTS
- CVS

MATERNAL

- PREECLAMPSIA
- APLA SYNDROME
- CHRONIC HT

DRUGS

- PG SYNTHETASE INHIBITORS
- ACE INHIBITORS

IDIOPATHIC



DIAGNOSIS

SYMPTOMS

NO SPECIFIC SYMPTOMS

H/O leaking p/v
Postterm
s/o preeclampsia
Drugs
Less fetal movements

SIGNS

Uterus - small for date
Feels full of fetus
Malpresentations
IUGR



USG

METHODS

MVP <2 cms
(<1 severe)

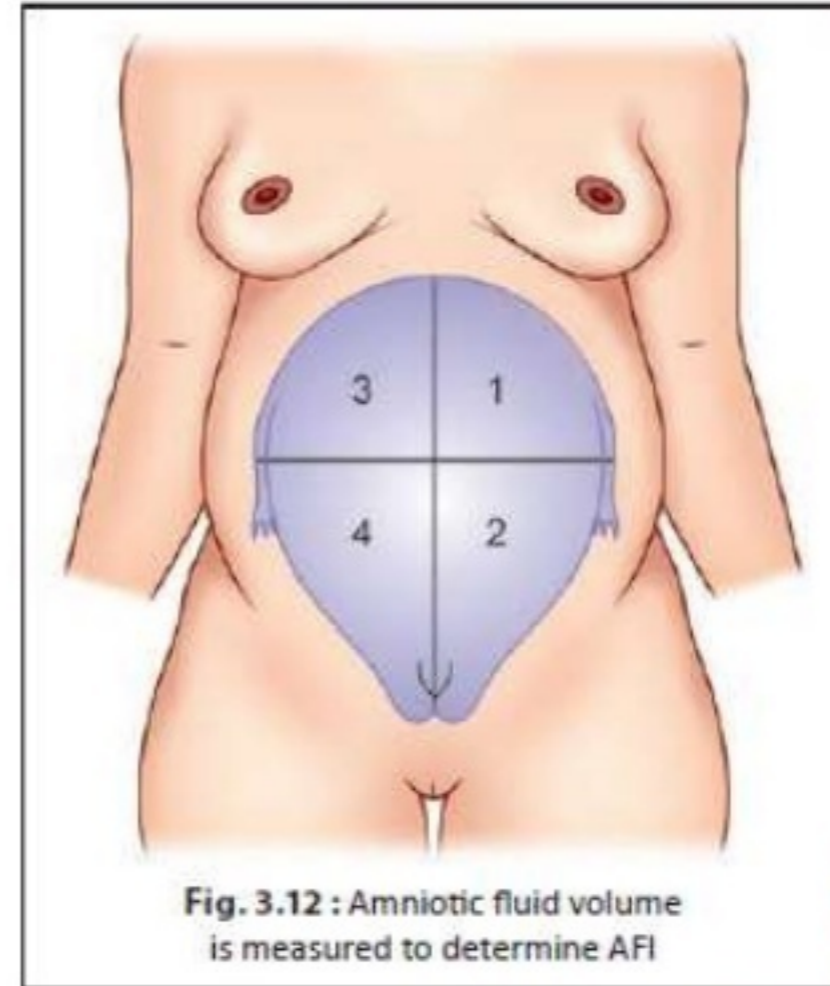
AFI <5 cms
(5-8
borderline)

2D pocket <15 sq
cms



Technique of AFI

- Uterus divided into 4 quadrants
- Transducer in vertical plane
- Sum of 4 quadrants max pocket depth excluding cord & limbs.
- Prior to 20 wks 2 halves



COMPLICATIONS

FETAL

Abortion

Prematurity

IUFD

Deformities -

CTEV, contractures, amputation

Potters syndrome - pulmonary hypoplasia

Malpresentations

Fetal distress

MSAF - MAS

Low APGAR

MATERNAL

Increased morbidity

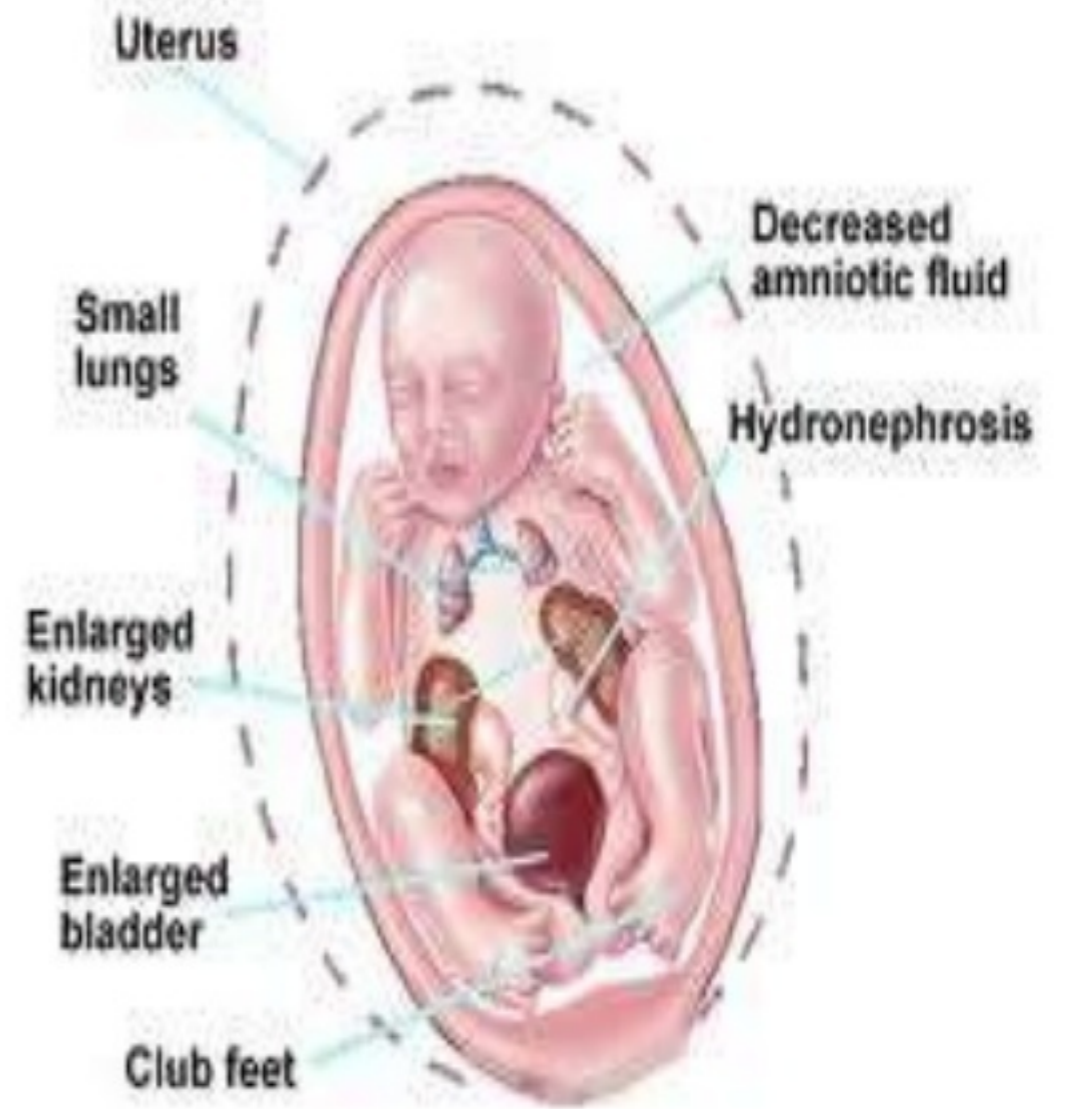
Prolonged labour: uterine inertia

Increased operative intervention (malformations, distress)





ADAM



MANAGEMENT

DEPENDS UPON

- AETIOLOGY
- GESTATIONAL AGE
- SEVERITY
- FETAL STATUS & WELL BEING



DETERMINE AETIOLOGY

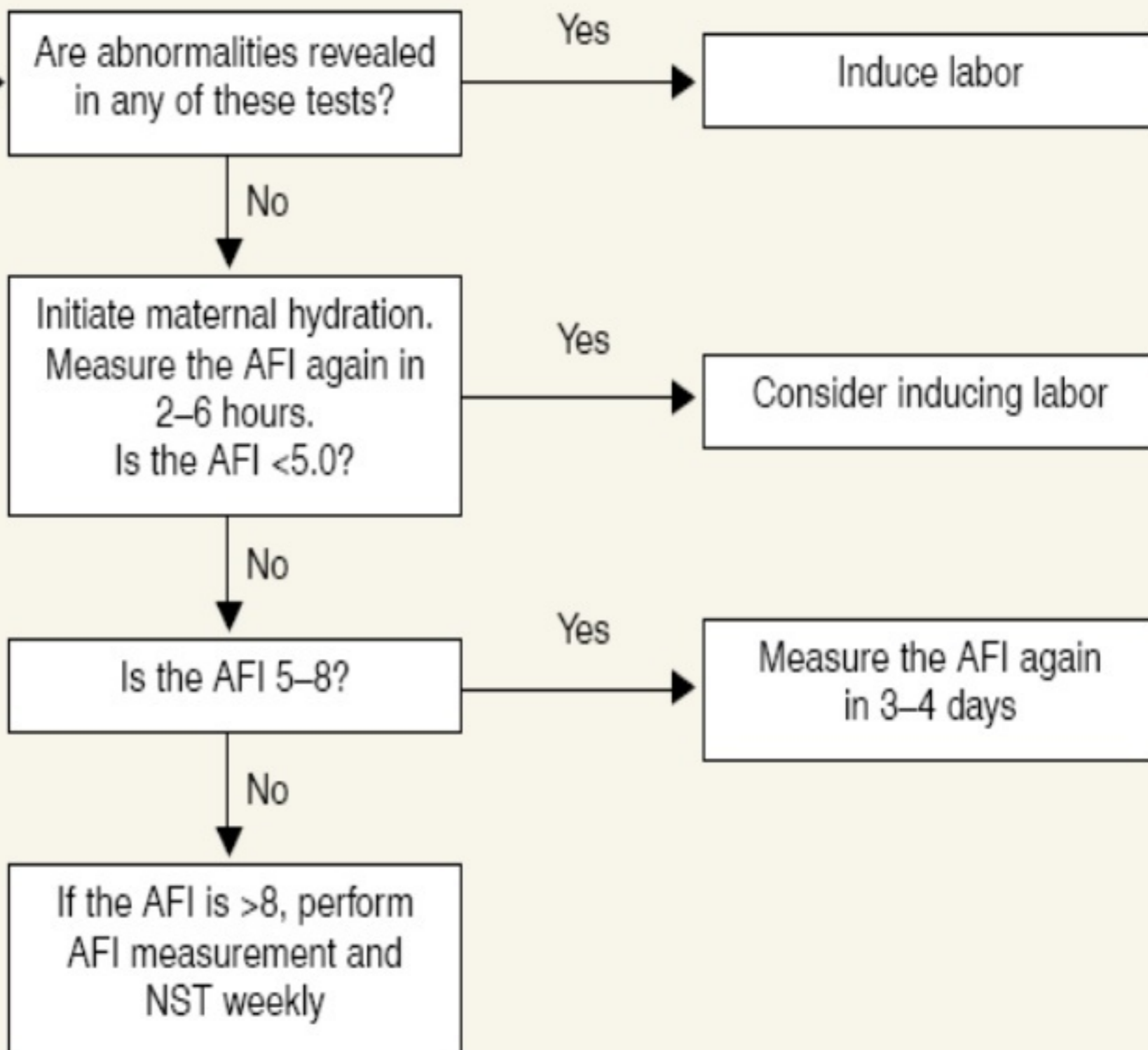
- R/O PROM, h/o medical illness
- TARGETED USG FOR ANOMALIES
- R/O IUGR ,IUFD when suspected
- Amniocentesis if chromosomal anomalies suspected - early symmetric IUGR
- Tests for APLA Syndrome , if suspected



Assessment of the pregnant woman with oligohydramnios at term

A woman whose pregnancy is between 37–41 weeks is discovered to have an amniotic fluid index <5.0 .

1. Evaluate for ruptured membranes
2. Review pregnancy dating
3. Order nonstress test (NST) to evaluate fetal well-being
4. Determine presence of pregnancy-induced hypertension, diabetes, or other conditions associated with uteroplacental insufficiency
5. Order ultrasound for intra-uterine growth restriction and fetal anomalies



TREATMENT

- **ADEQUATE REST** - decreases dehydration
- **HYDRATION** - Oral/IV Hypotonic fluids(2 Lit/d)
- **SERIAL USG** - Monitor growth, AFI, BPP
- **INDUCTION OF LABOUR/ LSCS**



- AMNIOINFUSION

INDICATIONS

- 1. Diagnostic
- 2. Prophylactic
- 3. Therapeutic



Decreases cord
compression
Dilutes meconium



TREATMENT ACC. TO CAUSE

- Drug induced - OMIT DRUG
- PROM - INDUCTION
- PPROM - Antibiotics, steroid - Induction
- FETAL SURGERY
 - VESICO AMNIOTIC SHUNT-PUV
 - Laser photocoagulation for TTTs



IMP QUESTIONS

- SHORT NOTES- OLIGOHYDRAMNIOS
- AFI -2 MARKS

THANK YOU