

# What are some of the more common complications of pregnancy?

## Placental complications

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### 1. placental abruption

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- Placental abruption is more common in women who smoke, have high blood pressure, have a multiple pregnancy, and/or in women who have had previous children or a history of placental abruption.

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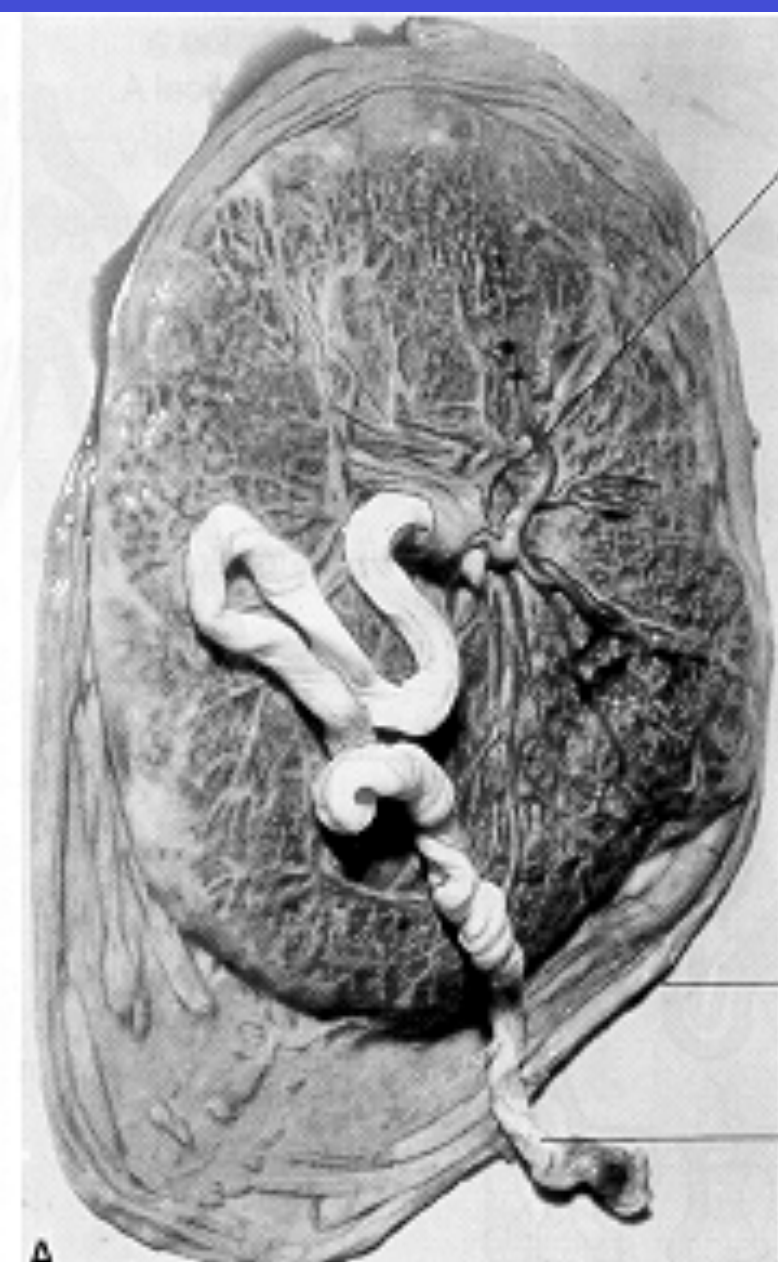
## Pre-eclampsia / eclampsia

1. Preeclampsia, also called toxemia, is a condition characterized by pregnancy-induced high blood pressure, protein in the urine, and swelling due to fluid retention.
2. Eclampsia is the more severe form of this condition, which can lead to seizures, coma, or death.

The cause of preeclampsia is unknown, but it is more common in first pregnancies.

# Placenta

- FETAL SIDE
- MATERNAL SIDE
- They provide...
  - protection
  - nutrition
  - respiration
  - excretion
  - hormone production

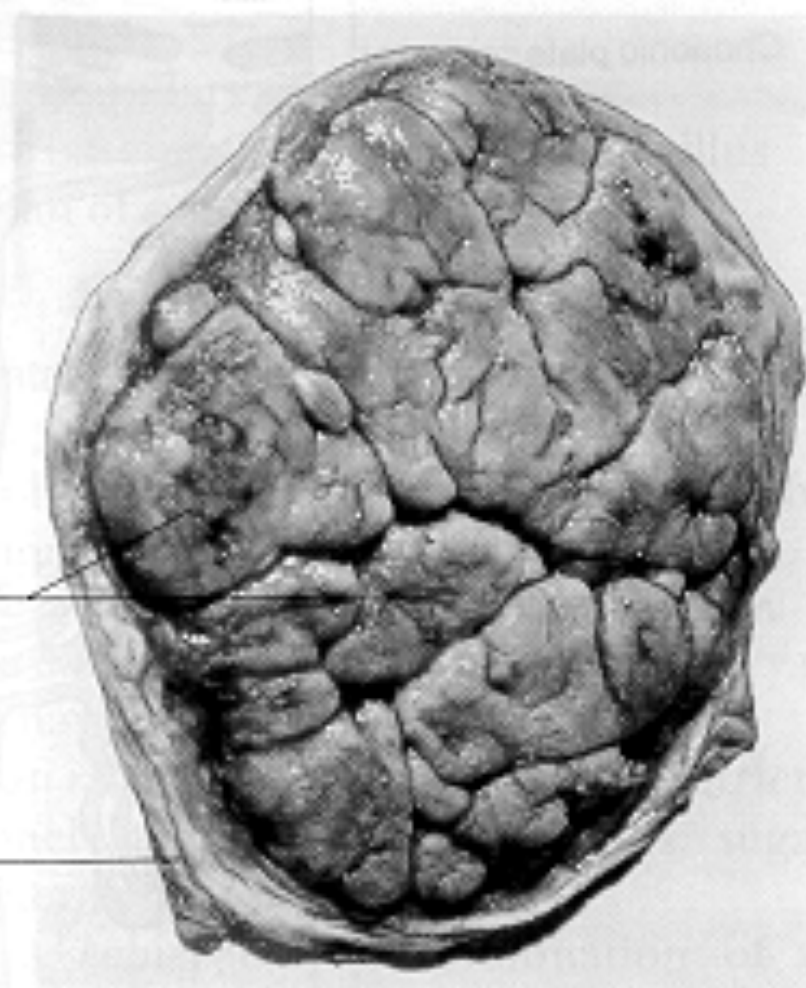


Umbilical vessels in chorionic plate

Cotyledons

Amnion

Umbilical  
cord



B

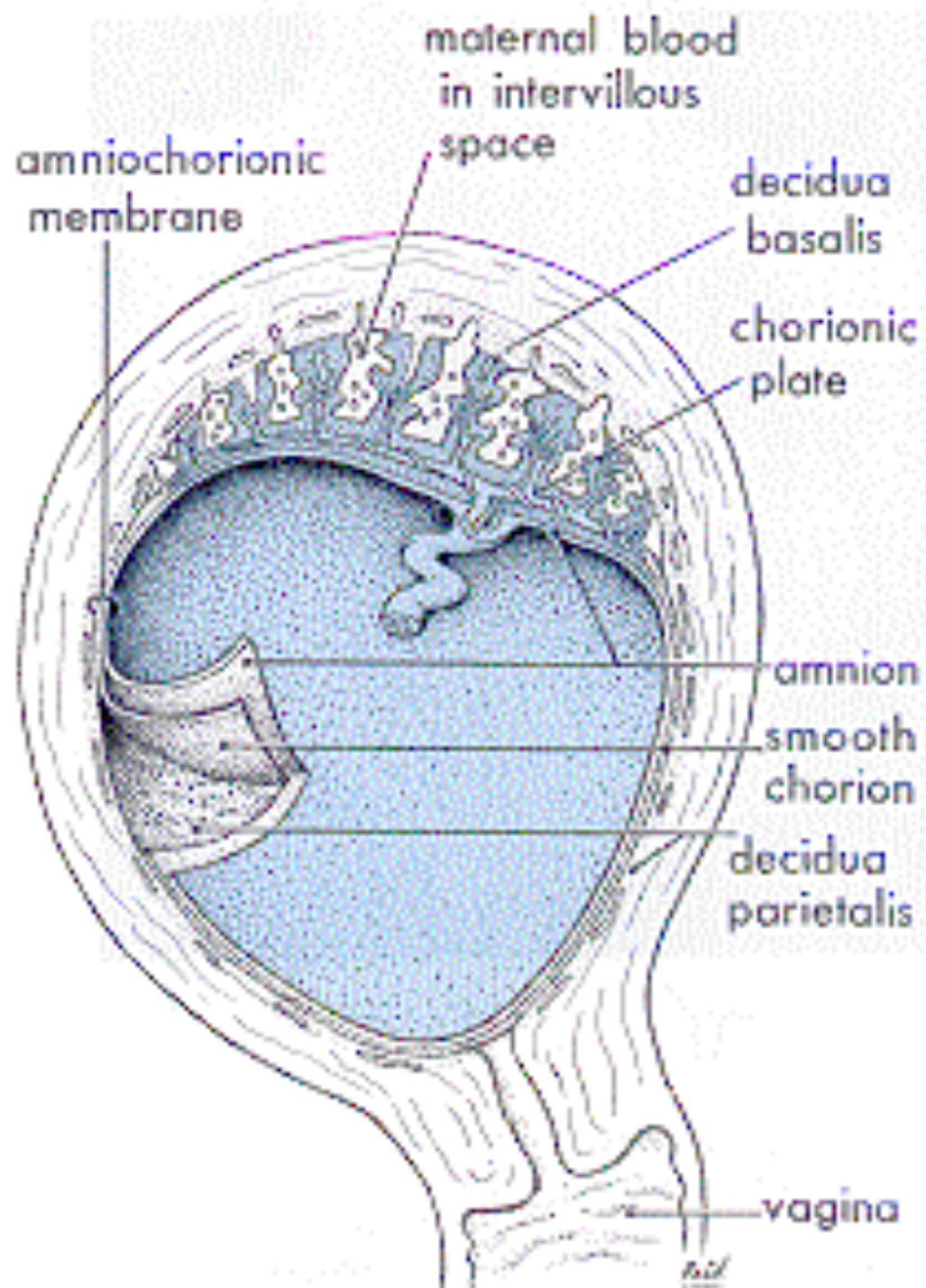
# Placenta

- FETAL SIDE

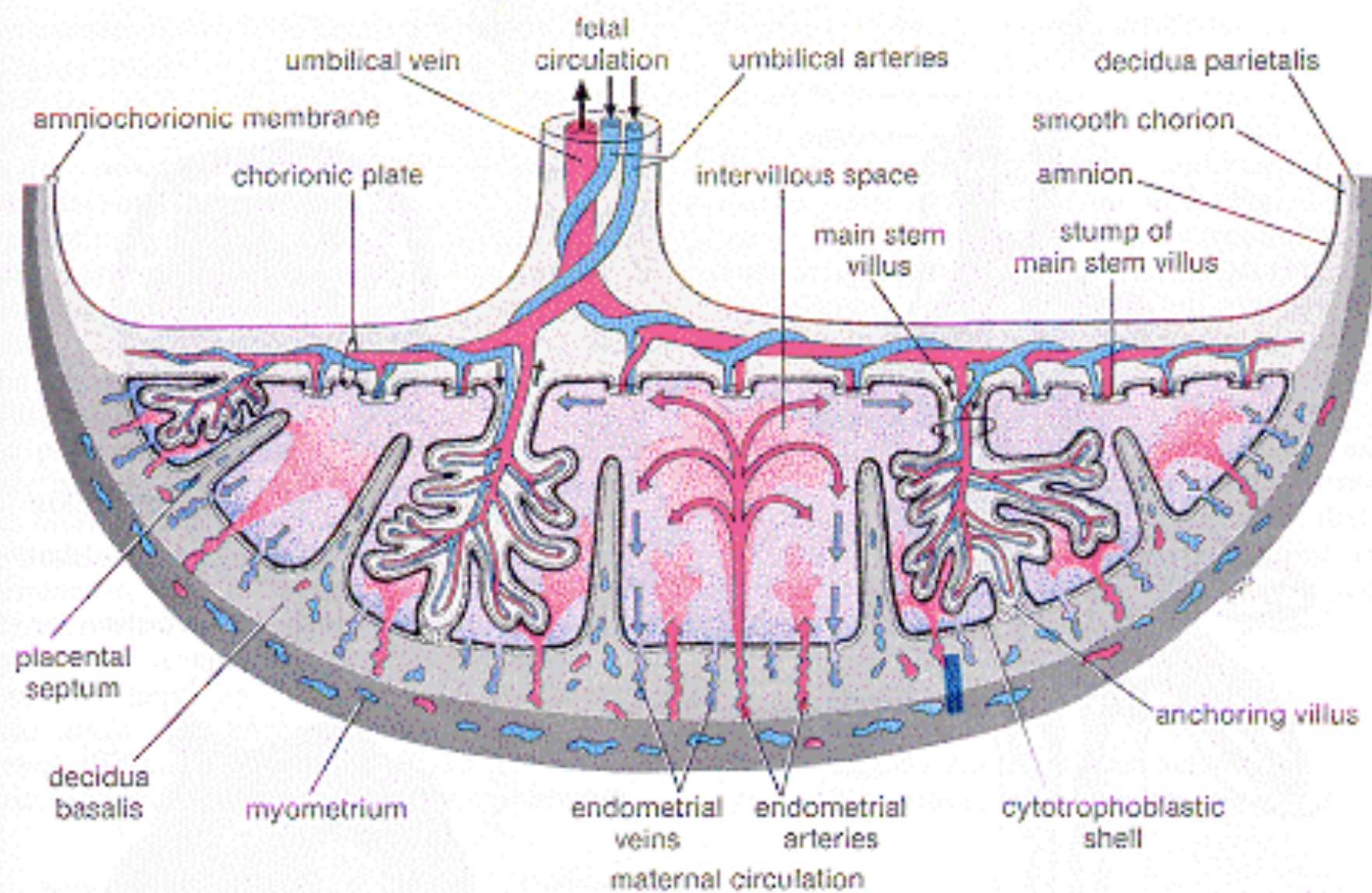
develops from the chorionic sac

- MATERNAL SIDE

*DECIDUA* - formed from the  
endometrium







# PLACENTA

- Synthesize
  - cholesterol
  - glycogen
  - fatty acids

Especially early in the pregnancy

# Placental Transfer

- Diffusion

water

electrolytes

minerals

gases

- O<sub>2</sub> sat in mom = 70%
- O<sub>2</sub> sat in umbi. Vein = 65%



# Placental Transfer

- Active Transport

Sugars

Amino Acids

Fatty Acids

- Pinocytosis

Gamma globulins - passive  
immunity

Viruses may pass no bacteria!!

### Waste Products

carbon dioxide  
urea, uric acid  
bilirubin

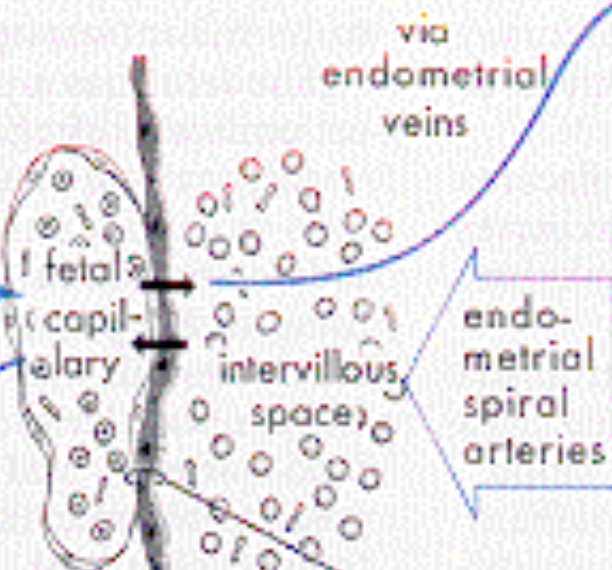
### Other Substances

R.B.C. antigens



via  
umbilical  
arteries

via  
umbilical  
vein



via  
endometrial  
veins

mother's lungs and kidneys

### Nutrients

oxygen  
water  
carbohydrates  
amino acids  
lipids  
electrolytes

### Other Substances

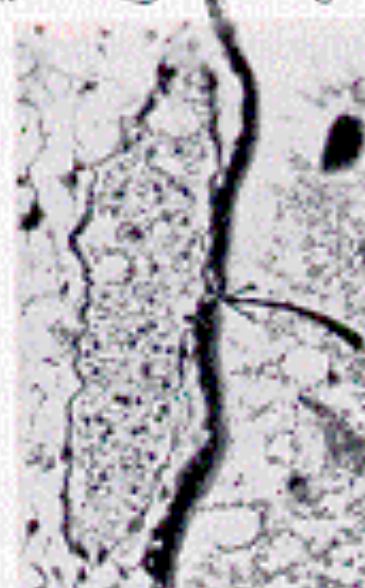
antibodies,  
IgG & vitamins

### Harmful Substances

drugs, poisons &  
carbon monoxide  
viruses { rubella  
cytomegalo-  
virus  
strontium-90  
Toxoplasma gondii

### Nontransferable Substances

bacteria, heparin  
transferrin, IgS & IgM

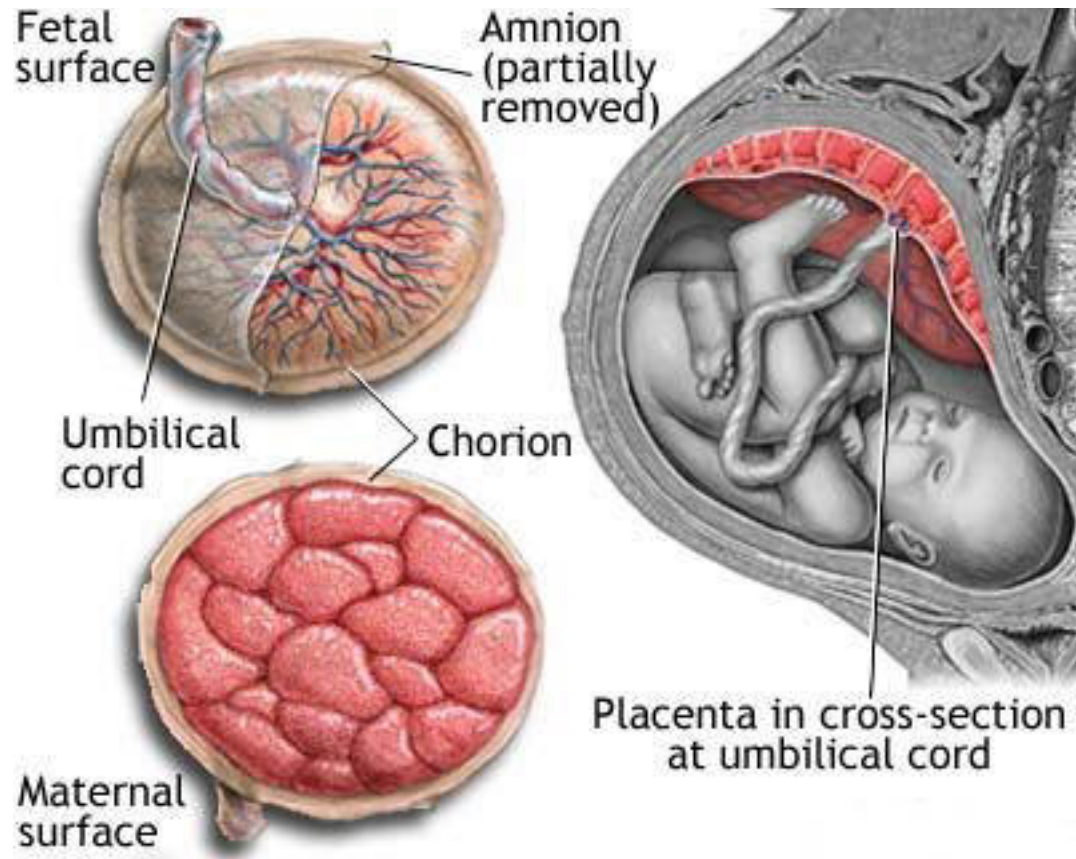


# PLACENTAL ATTACHMENT

- Posterior wall
- Anterior wall
- Fundus
- With consecutive pregnancies the blastocyst attaches lower in the uterus

# La Placenta

## Inserzione normale



# What are some of the more common complications of pregnancy?

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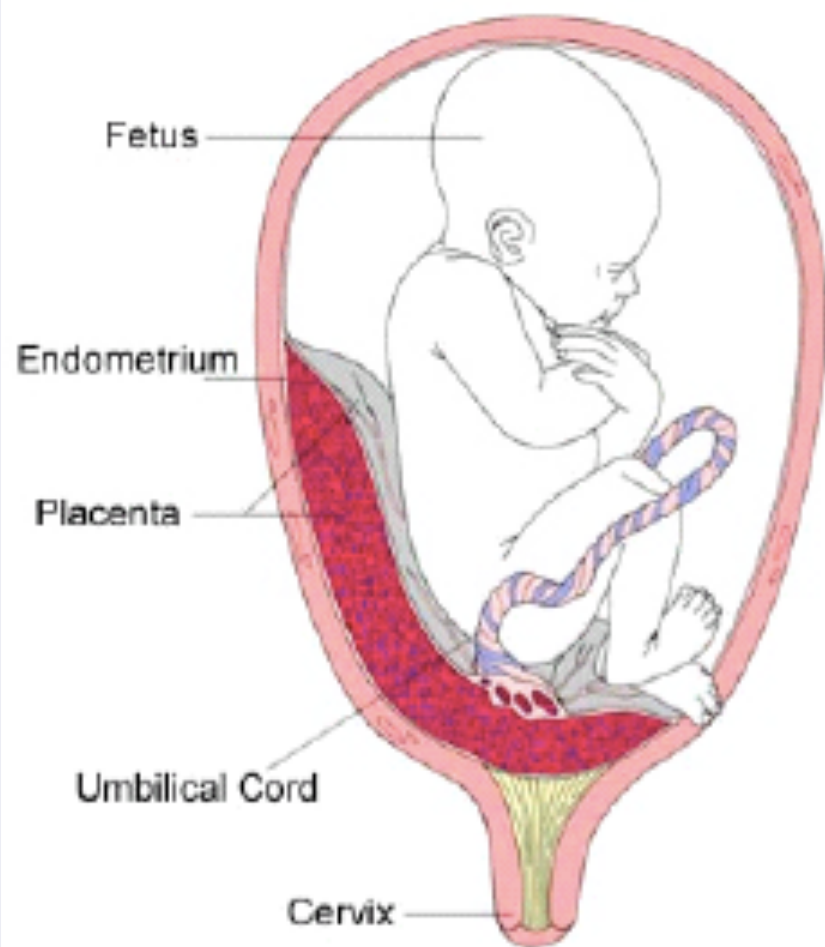
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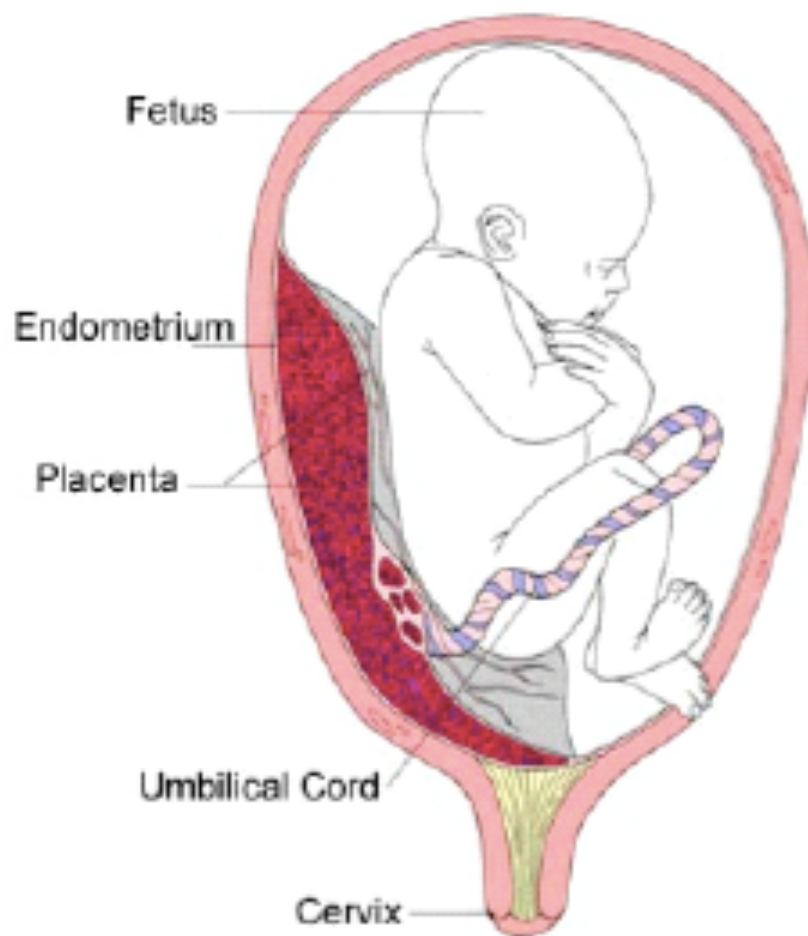
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# PLACENTA PREVIA

Total Placenta Previa



Partial Placenta Previa



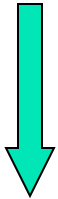




# Medical Mgmt of Placenta Previa

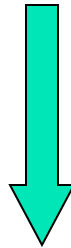
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**Mom stable,  
fetus immature**



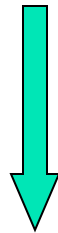
- **Bedrest**
- **no sex act**
- **report bldg**

**Fetus > 36 wks**



- **Amnio to ✓  
lung maturity**
- **delivery**

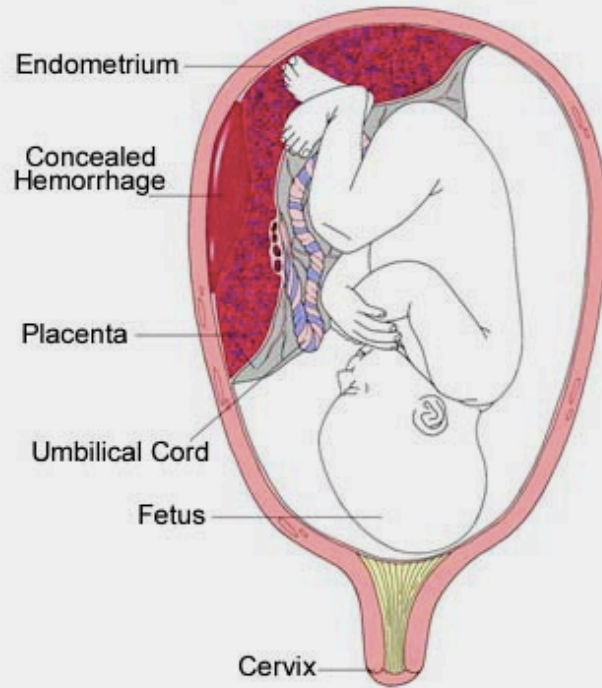
**S&S hypovol  
in mom**



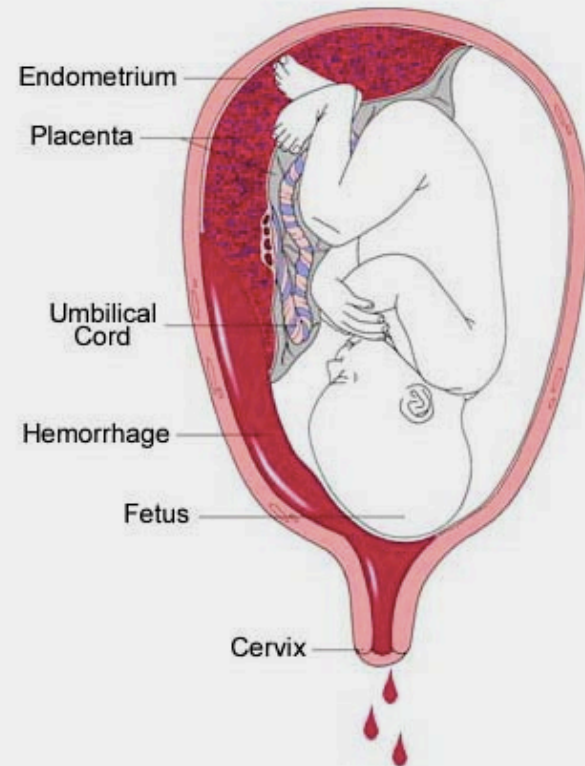
- **delivery**

# Distacco di Placenta normalmente inserita

Concealed Bleeding

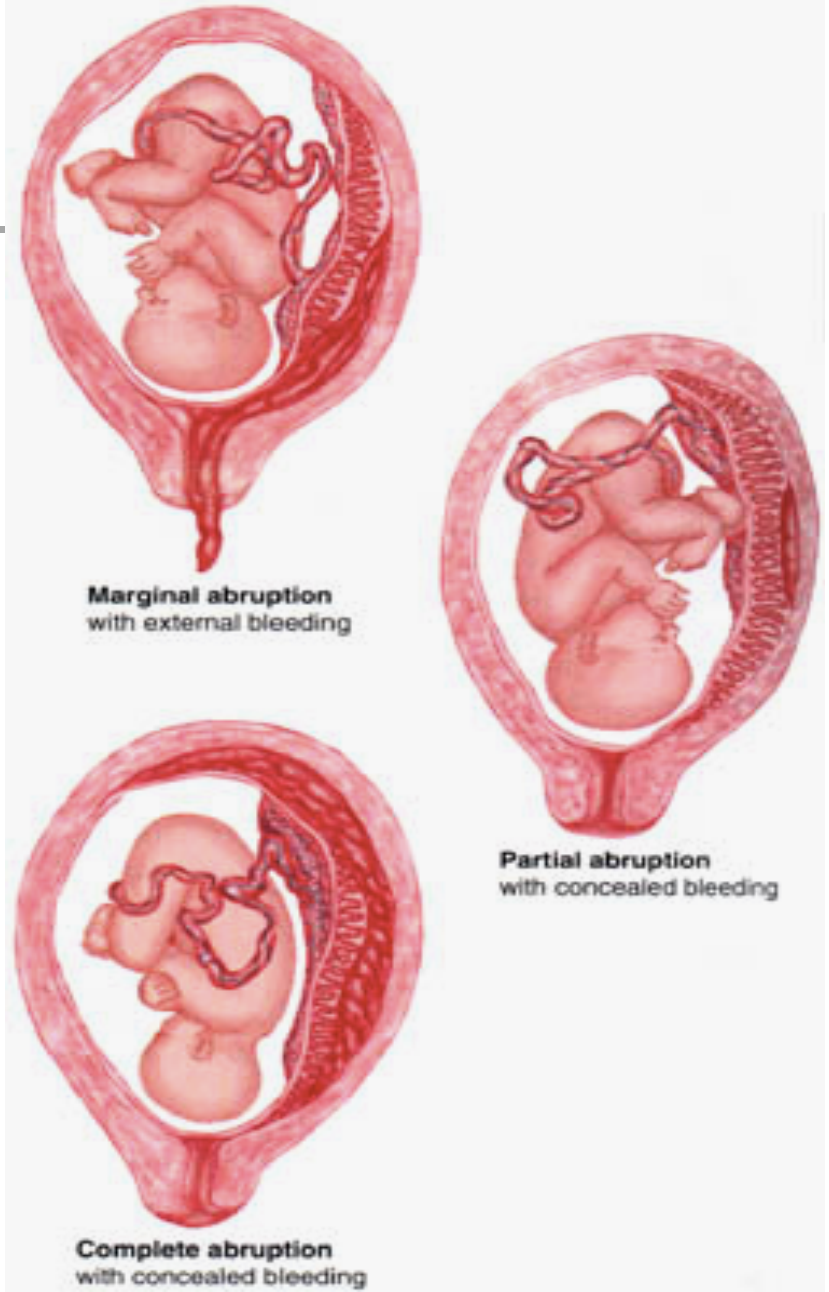


Visible Bleeding



# S&S Abruptio Placentae

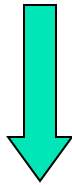
- **Vag bldg**  
(unless concealed)
- **abd pain**
- **↑ U-act**
- **hemorrhage**
  - **boardlike abd**
  - **late decels**
  - **s&s shock**



# Med Mgmt of Placental Abruption

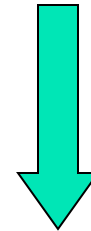


**Mom stable,  
fetus immature**



**bedrest  
tocolytics**

**↑ bleeding,  
fetal distress**



**Emergency CS**

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# Hypertension in Pregnancy

- Most common medical disorder during pregnancy
- Gestational hypertension – preeclampsia
  - 70 % of HTN in pregnancy
  - Wide spectrum
  - Mild elevation in BP vs severe hypertension with organ dysfunctions
    - Acute gestational hypertension
    - Preeclampsia
    - Eclampsia
    - HELLP



# Hypertension in Pregnancy

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Clinical Findings	Chronic Hypertension	Gestational Hypertension	Preeclampsia
Onset	< 20 weeks	Third trimester	≥ 20 weeks
Degree	Mild or severe	Mild	Mild or severe
Proteinuria	Absent	Absent	Usually present
Uric acid > 5.5 mg/dl	Rare	Absent	Usually present
Hemoconcentration	Absent	Absent	Severe disease
Thrombocytopenia	Absent	Absent	Severe disease
Hepatic dysfunction	Absent	Absent	Severe disease

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# Chronic Hypertension

- 5 % of pregnant women
- Hypertension before the 20<sup>th</sup> week or before pregnancy
- Antihypertensive medication prior to pregnancy
- Persistence beyond the usual postpartum period
- Mild chronic hypertension
  - $\geq 140/90$  mm Hg
- Severe chronic hypertension
  - $\geq 180/110$  mm Hg

# Gestational Hypertension

- Systolic BP  $\geq 140$  and/or diastolic  $\geq 90$  on at least 2 occasions at least 6 hours apart after 20 weeks in women known to be normotensive before pregnancy and before 20 weeks gestation
- BP recordings should be no more than 7 days apart
- Severe gestational hypertension
  - Sustained elevations in systolic BP  $\geq 160$  and/or diastolic BP  $\geq 110$  for 6 hours

# Gestational Hypertension

- Most frequent cause of HTN during pregnancy
- 6-17% in healthy nulliparous patients
- 2-4% in multiparous patients
- Rates increase
  - Previous preeclampsia
  - Multifetal gestations

# Preeclampsia

- Hypertension unique to human pregnancy
  - Rarely reported in primates
- Incidence
  - 3-7% in nulliparas
  - 0.8-5% in multiparas
  - Significantly increased in multigestations

# Risk Factors

- Nulliparity
- Family history
- Obesity
- Multifetal gestation
- Previous preeclampsia
- Previous poor outcome
  - IUFD
  - IUGR
  - Abruptio
- Preexisting medical conditions
  - CHTN
  - Renal disease
  - Diabetes
  - Thrombophilias
    - APAS
    - Protein S deficiency
    - Protein C deficiency
  - Factor V Leiden
  - Abnormal dopplers



# Preeclampsia

- Gestational hypertension plus proteinuria
  - $\geq 300$  mg/24 hours
- Classic triad
  - Hypertension
  - Proteinuria
  - Edema

# Edema

- No longer considered part of the diagnosis
- Neither sufficient nor necessary to confirm
- Common finding in normal pregnancies
- 1/3 of eclamptic women do not develop edema

# Proteinuria

- Can preeclampsia occur without proteinuria?
- Consider preeclampsia when gestational hypertension is associated with other symptoms
  - Persistent cerebral symptoms
  - Epigastric or right upper quadrant pain with nausea and vomiting
  - Thrombocytopenia
  - Abnormal liver enzymes
  - IUGR

# Management

- Delivery is the only cure
- Primary considerations
  - Safety of mother
  - Delivery of a live, mature newborn
- Immediate delivery vs expectant management
  - Severity of disease process
  - Maternal/fetal status at initial evaluation
  - Gestational age
  - Labor
  - Bishop score
  - Maternal desire