

Neonatal topics

1) Infant of diabetic mom (GDM)

<u>IDM risk</u>	<u>incidence</u>
Hypoglycemia	47%
Hypocalcemia	22%
Hyperbilirubinemia	19%
Polycythemia	34%
Major congenital anomalies	6-9%

(vs 2% general population)

CNS (anencephaly, meningocele, holoprosencephaly)

Cardiac (situs inversus)

Caudal regression (50% of all cases in IDMs)

Respiratory distress syndrome-1976	nondiabetic	diabetic
35 weeks	10%	30%
37 weeks	5%	20%
40 weeks	0%	0%

- What does L/S ratio test for? (>2.0 very low risk RDS in non IDM ? 3.5)
- Why is it better to feed formula for hypoglycemia instead of dextrose 10% in water?
- What if they are still hypoglycemic after feeding?
- Complications of Macrosomia -- Clavicle fracture, Erb's palsy, shoulder dystocia, phrenic nerve palsy

2) Respiratory distress syndrome

- What is the primary cause?
- Leads to alveolar atelectasis, edema and cell injury
- How do antenatal steroids help?
- How is surfactant administered?
- Side effects
 - Desaturation
 - Bradycardia
 - Apnea
 - Hypotension
 - Pulmonary hemorrhage
 - Pneumothorax
- What is the mechanism of pneumothorax?

3) Hypoglycemia

- Intrauterine fetal levels are 2/3 maternal
- Falls during first 1-2 hrs of life then increases and stabilizes at 65-70 by 3-4 hrs
- Whipple's triad
 - 1) measured low glucose
 - 2) signs / symptoms of hypoglycemia (clinical signs may be a late sign)
 - 3) resolution of symptoms after blood glucose is restored to normal
- There is no single value below which brain injury definitely occurs
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<u>Hyperinsulinism</u>	<u>Decreased production</u>	<u>Increased usage</u>
IDM	Prematurity	Stress
LGA	IUGR	-sepsis
Islet cell hyperplasia	Inadequate intake	-shock
Beckwith-Weidemann	Delayed onset feeding	-asphyxia
Insulin producing tumor		-hypothermia
Maternal tocolytic (terb)		-RDS
Maternal oral hypoglycemic rx		Exchange transfxn
Malpositioned UAC (infuse into pancreatic circ)		Defect in CHO mb
Abrupt cessation glucose		-GSD
		-fructose intol
		-galactosemia
		Endocrine def
		-adrenal insuff
		-hypothalamic dys
		-congen hypopit
		Defect AA metab
		Polycythemia
		Mat β blocker

Symptoms: lethargy, apnea, cyanosis, weak or high pitched cry, seizure, poor feeding, vomiting, tremors, jitteriness, no symptoms

4) Breastfeeding

Lactogen (placental) stimulates colostrums even as early as 2nd trimester

Prolactin = milk production

Oxytocin = myoepithelial cells to contract and eject milk (letdown)

Benefits

- 1) Decreased incidence and severity of infection
- 2) Improved function of immune system
- 3) Improved nutrition and growth (less likely to be obese as adult)
- 4) Decreased incidence of chronic disease (type 1 and 2 diabetes, celiac disease, IBD, childhood cancer, allergic disease including asthma)
- 5) Potential effects on cognition

- 6) Maternal health and psychosocial benefits (for mom decreased risk of ovarian and breast cancer, assists in expulsion of placenta, uterine involution)
- 7) Socioeconomic benefits

Contraindications to breastfeeding

- 1) Maternal HIV
- 2) Maternal CMV infection (if seroconverted during lactation)
- 3) HTLV-I and II infection
- 4) HSV lesions on the breast
- 5) Infants with galactosemia
- 6) Mom using drugs of abuse (which can be transmitted in milk)
- 7) Maternal tuberculosis (until mom is adequately treated)
- ? Hepatitis B – infants need to receive HBIG and hepatitis B vaccine before feeding at the breast