

Cholestasis in Neonatal, Extremely Low Birth Weight Infant

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Background

Male, born 26 4/7 weeks (Term is 40 weeks)
 Spontaneous pre-term labor (urgent cesarean)
 Birthweight: 0.890 kg

- Extremely low birthweight,
- Appropriate for Gestational age

Admitted to NICU for

- Prematurity
- Possible sepsis
- Respiratory distress
- Apnea

Additional Complication:

Request to avoid blood transfusions by the family for religious reasons

Problems:

This complicated patient had a significant number of problems that were diagnosed during his course of treatment. They are listed here based on their initial diagnosis date and duration.

DOL = days of life

Problem	Duration
Hypotension	DOL 1 – 20 DOL 1-4, 7-24
Respiratory Distress	DOL 1- end of study
Patent Ductus Arteriosus	2 doses
Adrenocortical Insufficiency	DOL 19
TPN-associated Cholestasis	DOL 19
Distended Abdomen	DOL 23 – end of study
Presumed meningitis	DOL 28

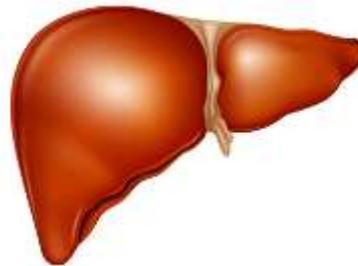
Cholestasis is...

When bile cannot flow from the liver to the duodenum, it can be caused by mechanical or genetic factors.

Long term consequences of untreated cholestasis:

Liver disease
 Liver failure
 Liver transplant

It is detected by: AST, ALT and **Bilirubin** laboratory values



Causes of cholestasis...

Most common causes of cholestasis in neonates are:

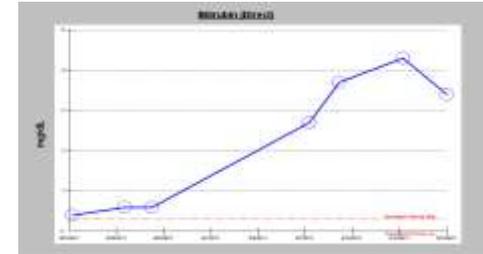
- Extrahepatic biliary atresia
- Idiopathic neonatal hepatitis
- Total Parenteral Nutrition-associated (TPN)

Frequency of TPN-associated cholestasis: in neonates:

- Occurs in almost 50% of infants with birth weight < 1 kg
- Often seen after 2 wks of receiving TPN
- Complicated medical course increases incidence

Possible Pathogenesis of cholestasis:

- No enteral feeds
- Excessive calorie load
- Components of PN solutions
- Sepsis



PRESENT ASSESSMENT

Age: Day of Life 26 Weight: 1.129 kg Length: 36 cm Head Circumference: 24 cm Growth rate_126% of BW

Nutritional support:

PN: 4 g/kg/d protein D14 + IL

Enteral: Breast Milk, 1 ml every 2 hours

Nutrition:

98 Kcal/kg/d 3.8 g/kg/d protein

Labs: See direct bilirubin

Assessment :

Adequate calories and protein for basal needs and growth.

PES Statement:

Inadequate PO intake related to medications as evidenced by patient receiving all nutrition through TPN for 26 days.

At nutritional risk due to ELBW, increased needs, infrequent blood draws, poor gut motility, remaining on TPN.

Monitoring & Evaluation

Maintain caloric/protein intake

Transition to EN

Monitor growth

Check labs

- monitor electrolytes
- ITPNP once per week
- Check nutrition labs in 1 month.

Acknowledgements: Thank you to Joan Zerzan, M.S. R.D. at the University of Washington in the Neonatal Intensive Care Unit.

References:

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Image from: <http://www.virtual-liver.de/images/liver-illustration.png>