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# Hepatology

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# Chief Complaint

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“Tip is a 10 week old female Yorkshire with a history of pacing, head pressing and seizures that started 1 day ago.

# Tip

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# History

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- Stunted growth – dull hair coat
- Weaned and changed to commercial dog food 5 days ago – now started vomiting
- CNS signs: ataxia, head pressing,
- Anorexia

# Physical Examination

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- Lethargic
- Dull hair coat
- Seems weak
- Stunted appearance
- Seems to be blind

# Clinical Signs

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- <https://www.youtube.com/watch?v=8qyKahzvzXg&t=249s>

# Problem List

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- CNS signs: head pressing, pacing, blind?
- Seizures
- Stunted growth
- Weak

# Rule Outs

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- List all the Possible Diagnoses
- *This list is your Rule Out list*



# Rule Outs

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- Canine Distemper
- Toxicities – lead, mushrooms, marijuana
- Hydrocephalus
- Epilepsy
- Hypoglycemia, Hypocalcaemia
- Hepatoencephalopathy

# The Plan

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- What is your PLAN ?

# Plan

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- CBC
- Blood Serum Chemistry
- TSBA (Total Serum Bile Acids)
- Abdominal Radiograph
- Abdominal Ultrasound
- U/A

# Laboratory Findings

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- RBC –  $4.5 \times 10^3$  (5.5-11.0)
- PCV – 30 ( 37-55 )
- ALKP – 300 u/l (14-111)
- BUN – 4.0 mg/dl (7.0-27)
- Creatinine – 0.4 mg/dl (0.5-1.8)
- Glucose – 60 mg/dl (70-143)
- TSBA – Fasting – 4.9 umol/L (0.0-5.0)
- Postprandial – 50 umol/L (<25)

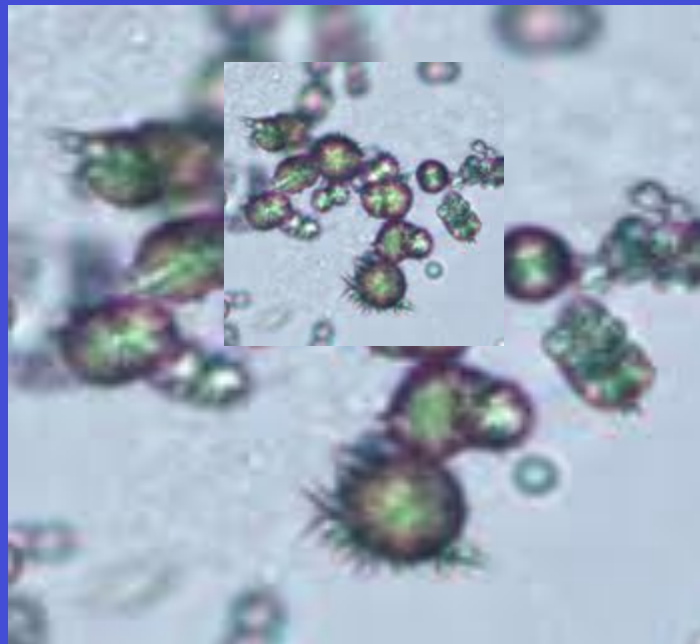
# Laboratory Findings Continued

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- USG 1.015 (1.030-1.040)
- Crystals in urine sediment ?

# Urine Crystals

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# Urine Crystals

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- Identify these crystals

# Urine Crystals

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- Ammonium Biurate Crystals



# Laboratory Findings

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- List the abnormal laboratory findings
- Discuss the abnormal laboratory findings

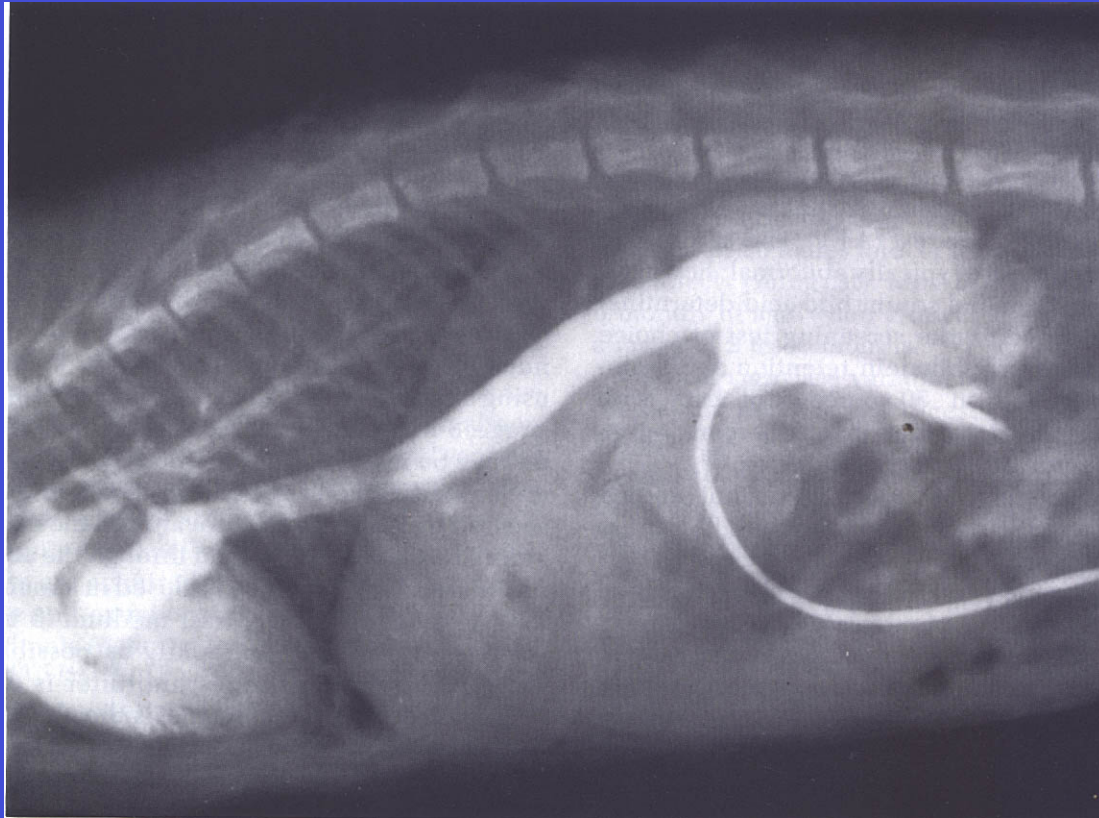
# Assesment of Laboratory Findings

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- RBC –  $4.5 \times 10^3$  (5.5-11.0) anemic
- PCV – 30 ( 37-55 ) anemic
- ALKP – 300 u/l (14-111) – liver function
- BUN – 4.0 mg/dl (7.0-27) low in liver dz
- Creatinine – 0.4 mg/dl (0.5-1.8)
- Glucose – 60 mg/dl (70-143) low in liver dz
- TSBA – Fasting – 4.9 umol/L (0.0-5.0)
- Postprandial – 50 umol/L (<25)

# Mesenteric Portography

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# PSS

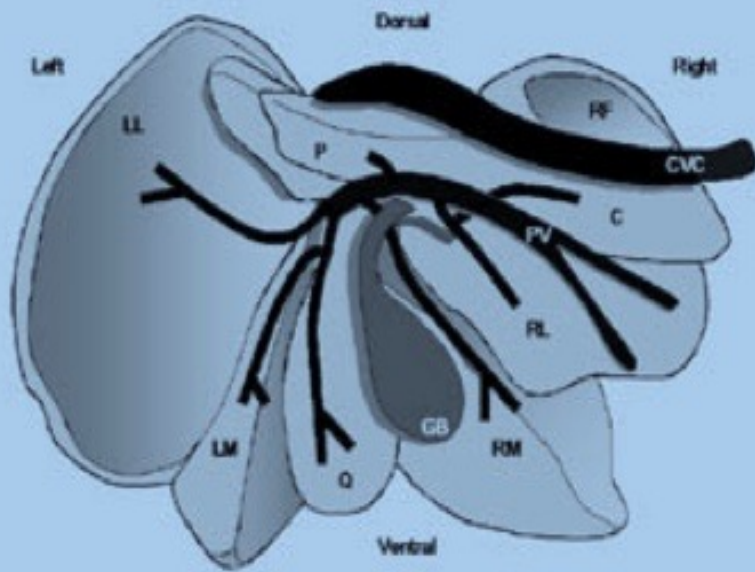


Figure 1. Normal hepatic divisional anatomy and int-

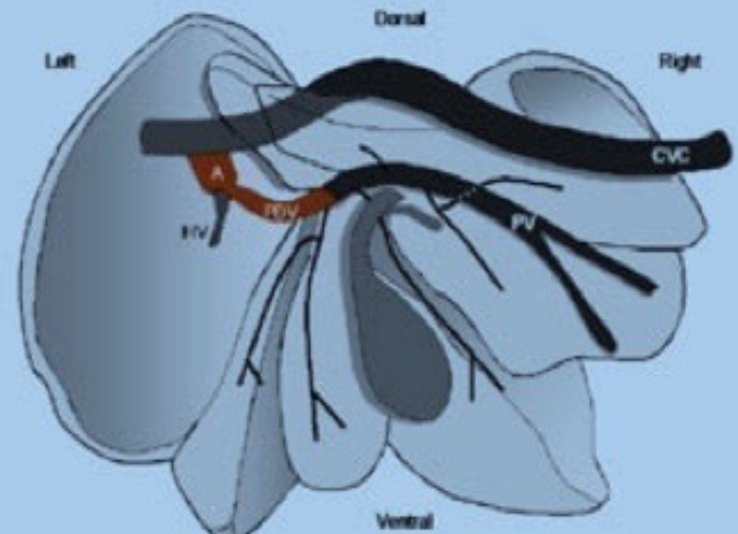


Figure 2A. Left-divisional shunts arise from a left

# Mesenteric Portography

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- What do you see?

# Mesenteric Portography

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- A single extrahepatic portosystemic shunt. The contrast media is seen to pass from the portal venous system directly to the caudal vena cava.

# What is your Diagnosis?

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- What is your diagnosis?

# Diagnosis

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- Portosystemic Shunt (PSS)



# Treatment Plan

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- Diet – Balanced Protein Restricted Diet
- Antibiotics
- Lactulose –decreases the absorption of gut toxins
- Surgical PSS Ligation

# Lactulose



# Prognosis

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- Guarded
- Surgical ligation – expect improvement but not cure
- Surgery is not required for all dogs as some respond well to feeding restricted protein diet.



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The End

