Increased Total Serum Bile Acids in Dogs

No vascular anomaly identified

- Middle/older age
  - Normal coagulation
    - No evidence of hepatic encephalopathy
      - Hepatic biopsy
        - Fibrotic or inflammatory without portal hypertension
          - Quantitative copper/iron +/- culture
        - Vascular disease
          - If breed predisposed to PVA, reevaluate for vascular disease
      - Normal coagulation
        - Hepatic biopsy
        - No evidence of hepatic encephalopathy
          - Hepatic biopsy
          - If breed predisposed to PVA, reevaluate for vascular disease

- Young dog with/without known breed predisposition to vascular disease
  - Rectal scintigraphy
    - Abnormal
      - Normal coagulation
        - Hepatic biopsy
        - No evidence of hepatic encephalopathy
          - Hepatic biopsy
          - If breed predisposed to PVA, reevaluate for vascular disease
    - Normal coagulation
      - PHPV (microvascular dysplasia)
        - Consider laparoscopic biopsy to confirm vascular disease + rule out concurrent inflammatory disease

- Surgery
  - Evaluate for MAPSS or CPSS
  - Correct if CPSS + hepatic biopsy

- Biopsy (laparoscopic)
INCREASED TOTAL SERUM BILE ACIDS

Abdominal Ultrasonography

Vascular anomaly identified

- Hepatic arteriovenous fistula
- CPSS
- MAPSS

Extrahepatic

Normal coagulation
No evidence of hepatic encephalopathy

- Extrahepatic
- Medical management
- Surgical attenuation + hepatic biopsy

Intrahepatic

Normal coagulation
No evidence of hepatic encephalopathy

- Intrahepatic
- Surgical exploration
- Coil embolization

Hepatic biopsy

Fibrotic/inflammatory with portal hypertension

- PHPV (noncirrhotic portal hypertension)
- Quantitative copper/iron +/- culture

Investigation
Treatment
Diagnosis
Result

CPSS = congenital portosystemic shunt; MAPSS = multiple acquired portosystemic shunts; PHPV = primary hypoplasia of the portal vein; PVA = portovascular anomaly; TSBA = total serum bile acids