

## Plugging up the Leak After Transplant: Shunt-Induced Encephalopathy PARTO-ly Treated & Completed with CARTO

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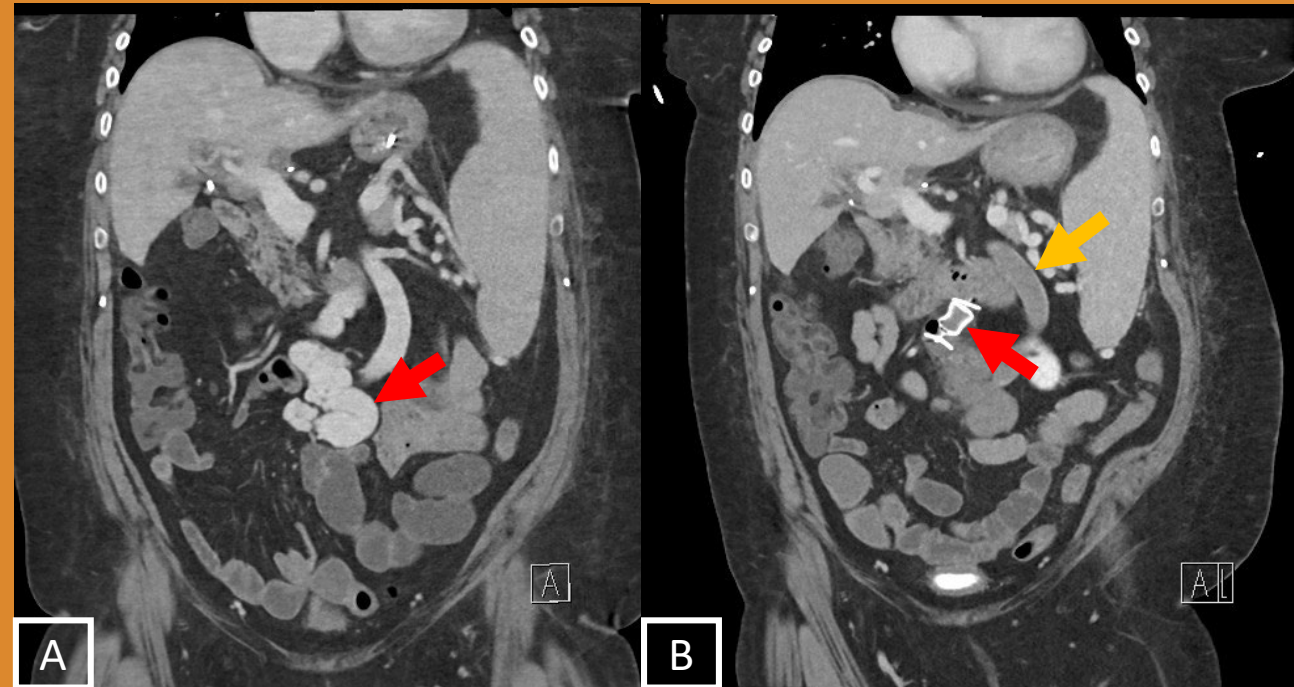
### INTRODUCTION:

- Spontaneous portosystemic shunts (SPSS) are a common cause of recurrent HE in cirrhosis
- Liver transplant (LT) is the definitive treatment of end-stage liver disease and its complications, but SPSS may persist after LT
- It is rare for SPSS to cause HE after LT

### CASE:

- 52-year-old female had an orthotopic LT for decompensated NASH cirrhosis
- Two months later, recurrent episodes of HE requiring 4 hospitalizations
- Metabolic, infectious, brain imaging, EEG, CSF, & neurology evaluations did not elucidate an alternative etiology
- Diagnosis supported by persistent hyperammonemia & improved sensorium with lactulose initiation
- Transjugular liver biopsy: stage 1 fibrosis, but no evidence of graft cirrhosis or rejection
- Normal synthetic graft function
- CT: large inferior mesenteric to left renal vein shunt (16 mm in diameter)
- Treated with PARTO (22 mm vascular plug)
- Residual collateral treated with CARTO (two 6 mm interlocked coils)

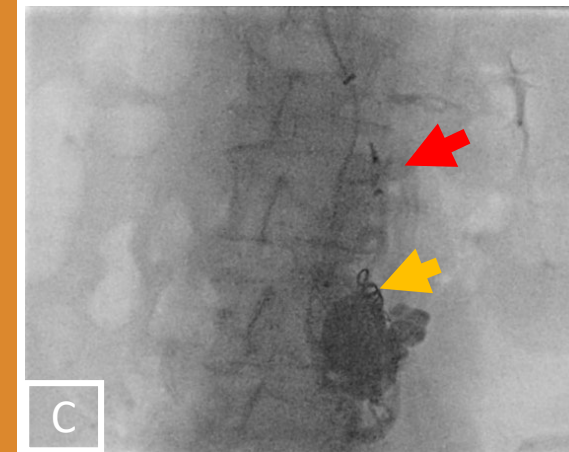
# Post-liver transplant encephalopathy is rarely caused by a residual shunt; however, it can be successfully treated with closure.



### FIGURES:

A: **Pre**-PARTO/CARTO contrasted CT in venous phase depicting large shunt from inferior mesenteric v to left renal v (**red**)  
B: **Post**-PARTO/CARTO contrasted CT in venous phase depicting vascular occlusion device (**red**) with successful thrombosis of dilated shunt (**yellow**)  
C: **Post**-PARTO/CARTO angiography depicting vascular occlusion device (**red**) & coils (**yellow**)

PARTO = Plug-Assisted Retrograde Transvenous Obliteration  
CARTO = Coil-Assisted Retrograde Transvenous Obliteration



### LESSONS LEARNED:

- In eight months, our patient has not had repeat episode of HE
- SPSS post-LT causing HE can be treated safely without thrombosis or need for repeat embolization
- Interventions (i.e., PARTO & CARTO) can prevent morbidity associated with recurrent hospitalizations & ongoing pharmacologic management



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