

## PICTURES IN DIGESTIVE PATHOLOGY

# Recurrent hyperammonemic encephalopathy. Embolization of the portosystemic shunt

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### CASE REPORT

We present the case of a 74-year-old woman with a history of hypertension, diabetes, bariatric surgery (Scopinaro technique), secondary chronic diarrhea with severe malnutrition and cirrhosis with portal hypertension. After bariatric surgery, she presented recurrent and self-limited episodes of trembling, confusion and dysarthria with an unclear triggering factor. Laboratory tests indicated hyperammonemia. Thus, hyperammonemic hepatic encephalopathy was diagnosed. The main causes include acute hepatitis (not in this case), cirrhosis (present in our patient but without improvement despite medical treatment), uncommon urea cycle disorders (specific studies were negative) and portosystemic shunts (1). An abdominopelvic computed tomography (CT) showed a tortuous and dilated vein that originated from the right gonadal vein to the inferior mesenteric vein, just before draining into the portal vein. This was compatible with a portosystemic shunt (Fig. 1). Therefore, we considered

this case to be compatible with cirrhosis secondary to nonalcoholic steatohepatitis which was aggravated by bariatric surgery. There was no evidence of drugs, viral hepatitis or autoimmune disease.

Embolization of the shunt (collateral mesenterico-caval) was performed with the Amplatzer<sup>®</sup> vascular plug, confirming the complete occlusion of the vein in the control phlebography and diminishing episodes of hyperammonemic encephalopathy (Fig. 2).

### DISCUSSION

This technique compared to coils, has several advantages such as higher accuracy in implantation, possibility of removal if necessary, lower risk of migration, quicker occlusion time, and compatibility with magnetic resonance (1). Thus, we recommend that the technique described here be taken into account in similar situations to that described here (2,3).

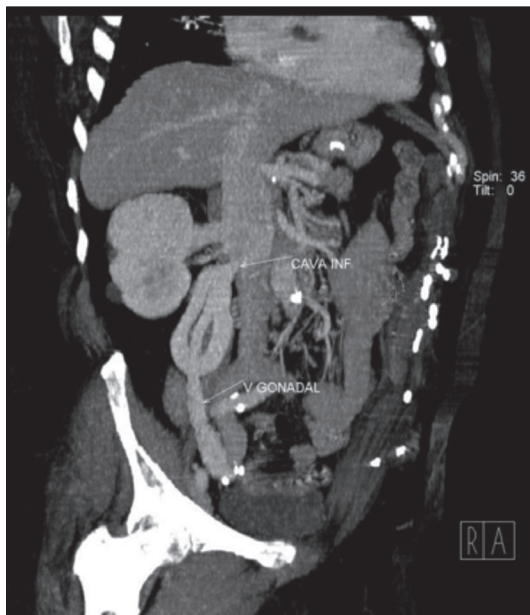


Fig. 1. CT scan (coronal maximum intensity projection-MIP view): hypertrophy of right gonadal vein.



Fig. 2. Transcatheter embolization: Amplatzer<sup>®</sup> vascular plug, in varicose vein, confirming the complete occlusion.

## REFERENCES

1. Ramírez-Polo A, Márquez-Guillén E, González-Aguirre AJ, et al. Persistent hepatic encephalopathy secondary to portosystemic shunt occluded with Amplatzer device. *Ann Hepatol* 2014;13(4):456-60.
2. Laleman W, Simon-Talero M, Maleux G, et al. Embolization of large spontaneous portosystemic shunts for refractory hepatic encephalopathy: A multicenter survey on safety and efficacy. *Hepatol* 2013;57(6):2448-57. DOI: 10.1002/hep.26314
3. Boixadera H, Tomasello A, Quiroga S, et al. Successful embolization of a spontaneous mesocaval shunt using the Amplatzer Vascular Plug II. *Cardiovasc Intervent Radiol* 2010;33(5):1044-8. DOI: 10.1007/s00270-009-9739-8