Olmesartan-associated sprue-like enteropathy: 
an emerging cause of drug-induced chronic diarrhea

Enteropatía sprue-like asociada a olmesartán: 
causa emergente de diarrea crónica asociada a fármacos

A 72-year-old woman with no medication allergies had a past 
history of diabetes mellitus, hypercholesteremia, high blood 
pressure, a ventriculoperitoneal shunt due to subarachnoid 
hemorrhage after a ruptured aneurysm, and atrophied 
chronic gastritis. She received eradication therapy for pos-
tive Helicobacter pylori, has a history of iron-deficiency 
anemia of at least 4-year known progression that is treated 
empirically, and continues treatment with omeprazole, 
insulin, metformin, olmesartan, nebivolol, and oral iron. 

She was admitted to our service for the first time due to 
symptoms of 2-week progression of 5-10 diarrheic, watery 
stools per day, with no blood, mucus, or pus, and no fever. Her chronic anemia worsened (hemoglobin 9.4 mg/dl; 
usual values were around 11 mg/dl). Upper and lower endo-
scopic study identified atrophied chronic gastritis with no 
other alterations. Biopsy was not taken. Stool cultures were 
negative. After metformin was suspended as a possible trig-
ergating factor and the corresponding insulin readjustment 
was made, the diarrhea disappeared and the patient was 
released.

She was readmitted 2 months later because the diarrhea 
reappeared with similar characteristics. At physical exami-
nation, the patient had low blood pressure (89/56 mmHg), 
was pale, and presented with oligoanuria, all in the context 
of hypovolemic shock secondary to gastrointestinal losses, 
requiring treatment in the intensive care unit. Laboratory 
work-up: urea 197 mg/dl, creatinine 3.51 mg/dl, sodium 150 
mmol/l, and potassium 5.24 mmol/l; hemoglobin 9.8 mg/dl, 
MCV 80 fl, and iron 15 μg/dl. Once she was clinically 
stable, thorough testing was undertaken, with the follow-
ing results: liver function, folic acid, vitamin B12, thyroid 
hormones, basal cortisol, serum proteinogram, glycosylated 

hemoglobin, and digestion in feces were all normal. Stool 
cultures, stool ova and parasite exam, Clostridium difficile 
toxin, ANA, ANCA, and anti-transglutaminase IgA antibody 
(0.30 U/ml [reference values < 7 U/ml]) tests were all neg-
ative. No significant alterations were observed in the chest 
x-ray, abdominopelvic CAT scan, or bowel transit. Endo-
scopic study was repeated with biopsy from the second 
portion of the duodenum and the bulb, where partial atrophy 
with a villous pattern (fig. 1) with increased intraepithelial 
lymphocytes (modified Marsh 3b)¹ was observed (fig. 2).

With fluid and electrolyte resuscitation and a gluten-free 
diet, the laboratory test parameters normalized within 3 
weeks and the number of stools decreased significantly and 

---

¹ Please cite this article as: Solano-Iturri G, García-Jiménez N, 
Solano-Iturri JD, Blanco-Sampascal S. Enteropatía sprue-like aso-
ciada a olmesartán: causa emergente de diarrea crónica asociada a 

Figure 1 Intraepithelial lymphocytosis associated with loss 
of mucus secretion vacuoles, glandular crypt hyperplasia, and 
moderate villous atrophy (H&E x20).

their consistency increased. Once the patient’s blood 
pressure figures stabilized, the antihypertensive medication was 
reintroduced and the watery diarrhea reappeared. Under 
those circumstances, we interpreted the symptoms as sprue-
like enteropathy, associated with olmesartan (which she had 
been taking for 3 years at a dose of 40 mg daily). The olmes-
artan was suspended and substituted with verapamil. Six 
months after that suspension, the patient continues to be 
asymptomatic.

Olmesartan is an angiotensin receptor II selective blocker 
(ARB) that is commonly used to treat high blood pres-
sure. Since July 2013, its label states sprue-like intestinal 
alterations as an adverse reaction to the medication.² 
Increasingly more cases associated with its use are being 
described, but not with other ARBs.³ Olmesartan should 
be included in the differential diagnosis in cases of chronic 
diarrhea with repeatedly negative serologic celiac disease 
tests.⁴

The causal mechanism of this pathology is unknown,⁵ 
but it could be due to an immunologic lesion, with elevated 
CDB+ and IL15 overexpression on the part of epithelial
Villous atrophy and intraepithelial lymphocyte infiltration characteristic of celiac disease can be seen in other situations, such as bacterial overgrowth, Crohn’s disease, intestinal lymphoma, or drug treatment, highlighting mofetil mycophenolate, azathioprine, and olmesartan, as was the case of our patient. Not only symptoms, but also histologic alterations, have been observed to remit with the suspension of the drug. Given our patient’s good progression, intestinal biopsy has not been repeated. According to the Naranjo algorithm, causality was considered probable (7 points), and was reported to the Spanish Drug Surveillance Agency.

We therefore consider it essential to include this entity in the differential diagnosis of chronic diarrheic syndromes of unclear etiology, emphasizing the performance of a thorough anamnesis, including the detailed reviewed of chronic drug treatments of patients, given that the associated complications can be potentially severe.

Financial disclosure

No financial support was received in relation to this study.

Conflict of interest

The authors declare that there is no conflict of interest.

References


G. Solano-Iturri1,∗, N. García-Jiménez2, J.D. Solano-Iturri2, S. Blanco-Sampascual3

1 Internal Medicine Service, Hospital Universitario de Basurto, Bilbao, Vizcaya, Spain
2 Pathologic Anatomy Service, Hospital Universitario de Basurto, Bilbao, Vizcaya, Spain
3 Digestive Tract Service, Hospital Universitario de Basurto, Bilbao, Vizcaya, Spain

* Corresponding author. Hospital de Basurto, Avda. Montevidio 18, 48013 Bilbao, Vizcaya, Spain.
Tel.: +344006000 (extension 5468); fax: +3446014514.
E-mail address: goizalnaz@gmail.com (G. Solano-Iturri).
2255-534X/ © 2017 Asociación Mexicana de Gastroenterología. Published by Masson Doyma México S.A. This is an open access article under the CC BY-NC-ND license (http://creativecommons.org/licenses/by-nc-nd/4.0/).

Gastric glomangioma, differential diagnosis of gastrointestinal stromal tumors (GIST)

Glomangioma gástrico, diagnóstico diferencial de tumores del estroma gastrointestinal

Glomus tumors originate from smooth muscle cells of the glomus bodies that help regulate arteriolar flow. They are mesenchymal tumors with malignant potential.1 Though infrequent, malignant gastric glomus tumors with metastasis to different organs have been reported.2

A 52-year-old man presented with intermittent abdominal pain in the epigastrium of several months’ progression, with partial response to medical treatment. He did not complain of fever, vomiting, constipation, diarrhea, weight loss, or any other systemic symptomatology. Physical examination revealed normal vital signs and no cardiopulmonary alterations. He had pain in the upper hemiabdomen upon deep palpation, no peritoneal irritation, and no other pathologic signs.

Endoscopy showed an ulcerated subepithelial tumor in the posterior wall of the gastric antrum. No abnormalities in the gastric mucosa were reported in the endoscopic biopsy. Endoscopic ultrasound (EUS) identified a 3 x 2.5 cm nodular, hypoechogenic, heterogeneous tumor located in the muscular layer of the gastric wall, through Doppler imaging, with interior vascularity. The EUS data were consistent with a gastrointestinal stromal tumor (GIST) (fig. 1).