

**Table 1 – Blood test evolution.**

Date	Hemoglobin (g/dL)	Platelet (mmiles/uL)	Creatinine (mg/dL)	LDH (IU/L)	Proteinuria (mg/dL)
March 2013	9.8	157	2.5	588	43
April 2013	11.5	254	2.2	236	43
July 2013	10.8	230	1.7	130	22
September 2013	11.8	347	1.6	123	14

in accelerated hypertension is not exactly known but is considered to play an important role in activating the renin-angiotensin-aldosterone system. In the case of our patient, it seems like arterial hypertension, kidney damage and thrombotic microangiopathy might be justified by treatment with interferon. However we cannot exclude that thrombotic microangiopathy is the cause by accelerated hypertension or the result of this one. Being difficult to assess which is the cause and which is the effect.

## REFERENCES

1. Ubara Y, Hara S, Takedatu H, Katori H, Yamada K, Yoshihara K, et al. Hemolytic uremic syndrome associated with beta-interferon therapy for chronic hepatitis C. *Nephron*. 1998;80:107-8.
2. Herrera WG, Balizet LB, Harberts SW, Brown ST. Occurrence of a TTP-like syndrome in two women receiving beta interferon therapy for relapsing multiple sclerosis. *Neurology*. 1999;52:153.
3. Broughton A, Cosyns J, Jadoul M. Thrombotic microangiopathy induced by long-term interferon-B therapy for multiple sclerosis: a case report. *Clin Nephrol*. 2011;76:396-400.
4. Olea T, Díaz-Mancebo R, Picazo M, Martínez J, Robles A, Selgas R. Thrombotic microangiopathy associated with use of

interferon-beta. *Int J Nephrol Renovasc Dis*. 2012;5:97-100.

5. Modrego P, Gazulla J. Arterial hypertension induced by interferon beta 1b in a patient with multiple sclerosis. *Mult Scler J*. 2012;18:1655-6.

Elisa Pereira Pérez<sup>a,\*</sup>,  
María Dolores Sánchez de la Nieta García<sup>b</sup>,  
Lucía González López<sup>c</sup>, Francisco Rivera Hernández<sup>b</sup>

<sup>a</sup> Servicio de Nefrología Hospital Virgen de las Nieves, Granada, Spain

<sup>b</sup> Servicio de Nefrología del Hospital Universitario General de Ciudad Real, Spain

<sup>c</sup> Servicio de Anatomía Patológica del Hospital Universitario General de Ciudad Real, Spain

\*Corresponding author.

E-mail address: [elisapereirap@gmail.com](mailto:elisapereirap@gmail.com) (E.P. Pérez).

2013-2514/© 2018 Sociedad Española de Nefrología. Published by Elsevier España, S.L.U. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).  
<https://doi.org/10.1016/j.nefro.2018.09.002>

## Post-renal acute renal failure secondary to peritoneal pseudomyxoma after appendectomy; an uncommon entity<sup>☆</sup>

### Fracaso renal agudo posrenal secundario a seudomixoma peritoneal tras apendicectomía; una entidad infrecuente

Dear Editor,

Postrenal (obstructive) acute kidney injury (AKI) accounts for 10-17% of all AKI cases.<sup>1</sup> It is characterised by obstruction of the flow of urine and may be caused by lithiasis, abdominopelvic cancers, anatomical abnormalities, etc.

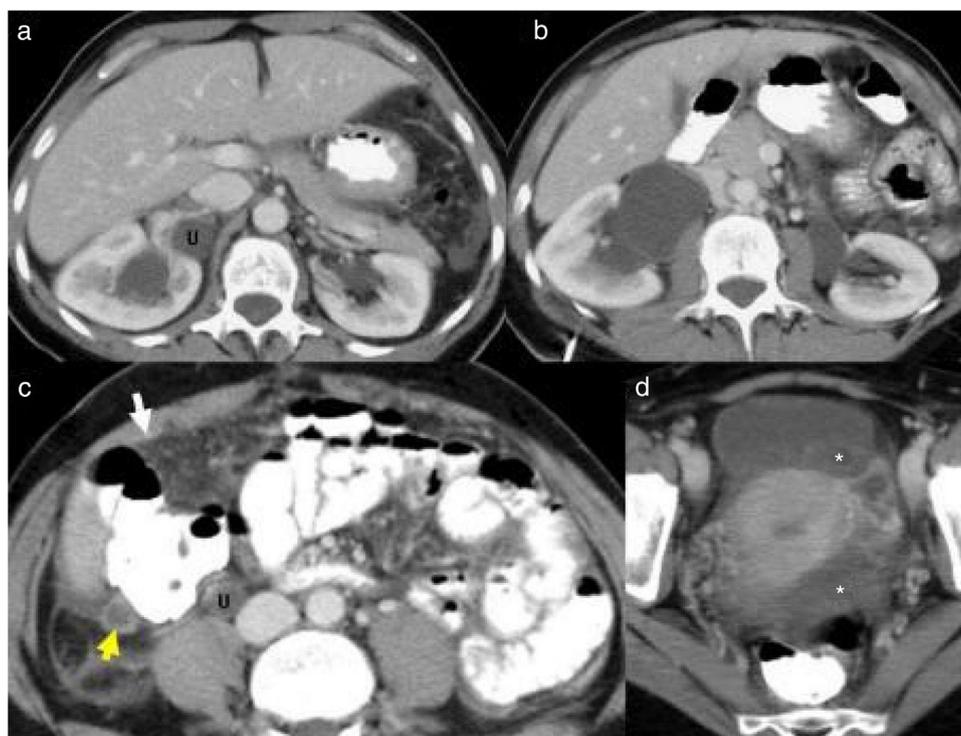
We present the case of an 80-year-old woman with a history of appendectomy who subsequently developed peritoneal pseudomyxoma (PPM).<sup>2</sup>

An 80-year-old woman that 12 years earlier underwent appendectomy due to acute appendicitis secondary to appendiceal mucinous cystadenoma. Now she complains of

DOI of original article:

<https://doi.org/10.1016/j.nefro.2017.11.008>.

<sup>☆</sup> Please cite this article as: Borrego García E, Martín-Lagos Maldonado A, García Castillo L, Ruiz Sancho AL. Fracaso renal agudo posrenal secundario a seudomixoma peritoneal tras apendicectomía; una entidad infrecuente. *Nefrología*. 2018;38:565-567.



**Fig. 1 – CT:** (a and b) bilateral hydronephrosis, grade 2 on the right and grade 3 on the left; (c and d) dilation of the distal ureter (U). Linear enlargement with increased uptake in some areas of the parietal peritoneum (arrow) and mesenteric infiltration. Moderate septated ascites in the pelvis (\*). Tubular structure adjacent to the caecum related to the appendiceal mucinous tumour (arrow).

asthenia, pain and increased abdominal girth in the last few months, and, urinary incontinence and oligo-anuria during the last few days.

On examination, BP 137/82 mmHg. Cardiopulmonary auscultation and neurological examination: normal. Abdomen distended, painful to palpation. Distended bladder in hypogastrium.

Lab tests: deterioration of kidney function (creatinine 2.45 mg/dl and GFR 18ml/min) and microalbumin 180 mg/g. Other lab measurements were normal.

Abdominal computed axial tomography (CT) (Fig. 1): increased uptake in the parietal peritoneum, mesenteric infiltration and a structure adjacent to the caecum related to the appendiceal mucinous tumour, as well as bilateral hydronephrosis (grade 3 on the left and grade 1-2 on the right). Doppler ultrasound of the kidneys without renal artery stenosis. Fine-needle aspiration biopsy: mucinous material with few cells with low-grade atypia compatible with low-grade PMP.

After urinary catheterisation the urine the volumen of collected was 1900 ml.

The patient underwent cytoreductive surgery, but she died during the postoperative period of respiratory distress syndrome. Kidney function after urinary catheterisation and prior to surgery was improving, reaching baseline kidney function. The evolution of the analytical parameters is shown in Table 1.

The pathogenesis of PPM has been attributed to the rupture, effusion or metastasis of a primary mucinous neoplasm in a peritoneal organ, especially the appendix and ovaries.<sup>2,3</sup>

**Table 1 – Evolution of analytical parameters.**

	Baseline data	On admission	At one week
Creatinine	1.23 mg/dl	2.45 mg/dl	1.15 mg/dl
Urea	21 mg/dl	82 mg/dl	27 mg/dl
Sodium	138 mEq/l	138 mEq/l	135 mEq/l
Potassium	3.7 mEq/l	5.1 mEq/l	4 mEq/l
Chlorine	100 mEq/l	95 mEq/l	102 mEq/l
Albuminuria	Undetectable	180 mg/g	Undetectable

The most common signs and symptoms are pain, intestinal distension/obstruction, overinfection and urinary symptoms.

There are two types: disseminated peritoneal adenomucinosis (DPAM) or low-grade PPM, and peritoneal mucinous carcinomatosis (PMCA), which is comparatively more aggressive.<sup>4</sup>

The main treatment is cytoreductive surgery, including appendectomy, bilateral oophorectomy and omentectomy plus systemic chemotherapy. Other authors have proposed intraperitoneal chemotherapy or postoperative abdominal radiotherapy.

PPM is a rare process associated with tumours with a low grade of malignancy, the origin of which is unclear, although appendiceal neoplasm has been suggested as its primary origin.

Removal of the appendix is recommended in cases of pseudomyxoma, even where it appears macroscopically healthy.<sup>4-6</sup>

The prognosis depends on the stage and differentiation of the associated tumour.<sup>5,6</sup>

## REFERENCES

1. Gaínza de los Ríos F. Insuficiencia renal aguda. *Nefrología al día*. 2.<sup>a</sup> ed. Barcelona: Sociedad Española de Nefrología/Plusmedical; 2012.
2. Misdraji J. Mucinous epithelial neoplasms of the appendix and pseudomyxoma peritonei. *Mod Pathol*. 2015;28 Suppl. 1:S67-79.
3. Wrafter PF, Connelly T, Khan JS, Joyce WP. Pseudomyxoma peritonei diagnosed 19 years after appendectomy. *BMJ Case Rep*. 2015;2015, pii:bcr2015211706.
4. Ronnett BM, Zahn CM, Kurman S RJ, Kass ME, Sugarbaker S PH, Shmookler BM. Disseminated peritoneal adenomucinosis and peritoneal mucinous carcinomatosis. A clinicopathologic analysis of 109 cases with emphasis on distinguishing pathologic features, site of origin, prognosis, and relationship to "pseudomyxoma peritonei". *Am J Surg Pathol*. 1995;19:1390-408.
5. Seidam JD, Elsayed AM, Sobin LH, Tavassoli FA. Association of mucinous tumors of the ovary and appendix. A clinicopathologic study of 25 cases. *Am J Surg Pathol*. 1993;17:22-34.
6. Mann WJ, Wagner J, Chumas J, Chalos E. The management of pseudomyxoma peritonei. *Cancer*. 1990;66:1636-40.

Elena Borrego García<sup>a,\*</sup>, Alicia Martín-Lagos Maldonado<sup>b</sup>, Lourdes García Castillo<sup>c</sup>, Andrés Luis Ruiz Sancho<sup>d</sup>

<sup>a</sup> Servicio de Nefrología, Complejo Hospitalario de Granada, Granada, Spain

<sup>b</sup> Servicio de Digestivo, Complejo Hospitalario de Granada, Granada, Spain

<sup>c</sup> Distrito Medicina Familiar y Comunitaria de Granada, Granada, Spain

<sup>d</sup> Servicio de Medicina Interna, Complejo Hospitalario de Granada, Granada, Spain

\*Corresponding author.

E-mail address: [eborregogarcia@gmail.com](mailto:eborregogarcia@gmail.com) (E. Borrego García).

2013-2514/© 2017 Sociedad Española de Nefrología. Published by Elsevier España, S.L.U. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

<https://doi.org/10.1016/j.nefro.2018.07.001>

## Safe of plasma exchange in acute renal failure secondary to vasculitis<sup>☆</sup>

### Seguridad de los recambios plasmáticos terapéuticos en la lesión renal aguda secundaria a vasculitis

Dear Editor,

Therapeutic plasma exchange (TPE) is indicated as a coadjuvant treatment in cases of severe acute kidney injury (AKI) secondary to vasculitis.<sup>1-7</sup> Its benefit has been demonstrated both in the acute phase of the diseases and throughout the first year. It reduces the need of dialysis from 60% to 40%.<sup>3,5</sup> Although its benefit has been shown in a range of diseases, therapeutic apheresis techniques have had limited application over the years. This could be explained, among other reasons, by the technical difficulty of the procedure, the rapid reoccurrence of some disease, and the limited number of controlled, randomised studies and meta-analyses demonstrating its usefulness; by contrast, there are a number of published articles with outdated views on its efficacy, safety and cost. Below, we discuss the results of a descriptive, longitudinal, single-centre study of a prospective database of patients with AKI secondary to vasculitis, treated

with TPE in the Haematology and Haemotherapy Department of Miguel Servet University Hospital, Zaragoza. The severity of acute kidney injury is classified based on the Acute Kidney Injury Network (AKIN) classification and the Risk, Injury, Failure, Loss and End Stage Kidney Disease (RIFLE) criteria.

Thirteen cases were analysed, seven of which were women, with a median age of 67.7 years. 92.3% had high comorbidity (Charlson Index > 4). More than 60% of the cases corresponded to indications type I or II of the guidelines of the American Society for Apheresis.<sup>2</sup> All cases required support with dialysis, but this was only performed as an urgent procedure and before starting TPE in four cases (these four patients had serum creatinine values >6.8 mg/dl). The rest of characteristics of the series are described in [Table 1](#).

The response rate after one month of TPE completion was 38.5%. Serum creatinine values below 5.8 mg/dl were associated with better responses ( $p=0.032$ , RR: 0.16; 95% CI

DOI of original article:

<https://doi.org/10.1016/j.nefro.2017.12.001>.

<sup>☆</sup> Please cite this article as: Parra Salinas IM, Arnaudás Casanova L, Blasco Forcén Á, González Rodríguez VP, García-Erce JA. Seguridad de los recambios plasmáticos terapéuticos en la lesión renal aguda secundaria a vasculitis. *Nefrología*. 2018;38:567-570.