



# The Open Urology & Nephrology Journal

Content list available at: [www.benthamopen.com/TOUNJ/](http://www.benthamopen.com/TOUNJ/)

DOI: 10.2174/1874303X01609010001



## Encapsulating Peritoneal Sclerosis

Derek Larson<sup>\*,1</sup>, Siddiq Anwar<sup>2</sup>, Tushar J. Vachharajani<sup>3</sup> and Daniel Hafenrichter<sup>4</sup>

<sup>1</sup> Department of Nephrology, Missouri Baptist Medical Center, St Louis, MO, USA

<sup>2</sup> Department of Sunderland Royal Hospital, Sunderland, UK

<sup>3</sup> Department of W.G. (Bill) Hefner Veterans Affairs Medical Center, Salisbury, NC, USA

<sup>4</sup> Department of Midwest Vascular and General Surgery, St. Louis, MO, USA

**Abstract:** Encapsulating Peritoneal Sclerosis (EPS) developed in an African American male who had been on Peritoneal Dialysis for nine years. During his hospitalization for peritonitis, he continued to clinically deteriorate with refractory abdominal pain, vomiting, and anorexia requiring Total Parenteral Nutrition. This case demonstrates the importance of prompt EPS diagnosis and the technical challenges associated with surgical treatment.

**Keywords:** Encapsulating peritonitis, peritoneal dialysis, peritoneal sclerosis, peritonitis.

### INTRODUCTION

A 47-year-old African American male with end stage renal disease secondary to Thrombotic Thrombocytopenic Purpura, on peritoneal dialysis (PD) since 2006 presented in 2015 with abdominal pain and cloudy PD effluent bags due to PD peritonitis (PDP). He was a High-Average transporter and in 2007 had one episode of coagulase-negative staphylococcus PDP which resolved with antibiotics. During this admission, in view of his poor response to antibiotics and worsening clinical symptomatology, his PD catheter was removed. A computerized tomography scan (Fig. 1) raised suspicion of encapsulating peritoneal sclerosis, and in view of persistent symptoms of bowel obstruction, he was put forward for peritonectomy and enterolysis.

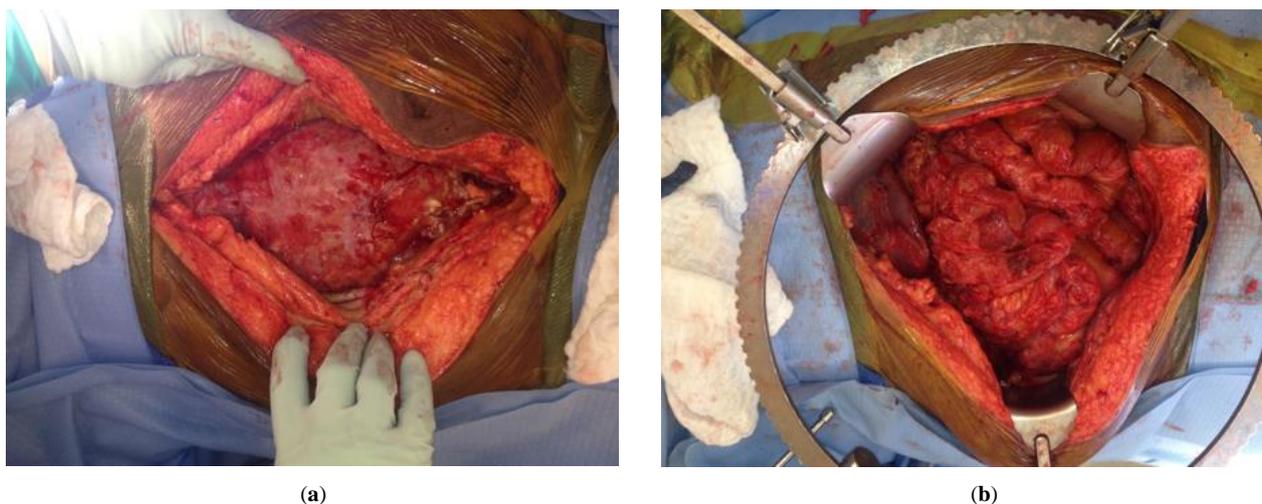
A longitudinal midline incision was made and the cocoon was carefully separated from the anterior abdominal wall (Fig. 2a). The peritoneum had a dense peritoneal rind that was evident. Next, starting inferiorly, bowel loops were separated from the overlying inflammatory rind inch-by-inch. No enterotomies were made during the procedure. The bowel had a very unusual appearance, which appeared to be ruddy and leathery with grooves and a golden luminescent-type appearance under the light. The dense capsule was carefully taken down and bowel was freed up from the ileocecal valve to the ligament of Treitz (Fig. 2b). The dense adhesions to the liver were carefully separated. The abdominal fascia was closed and the patient tolerated the procedure well.

Even with the advances in surgical techniques for advanced EPS, the post-operative mortality ranges between 19-35% [1], especially in those who present as surgical emergencies. The recurrence rates post-surgery have been reported as high as 25% [2, 3]. Despite the good outcome in our patient, PD patients, especially with high transporter status who choose to remain on peritoneal dialysis for more than 5 years, need to be counselled on this devastating complication of peritoneal dialysis.

\* Address correspondence to this author at the St. Louis Kidney Consultants, 12855 N. Forty Drive, Suite 205 - North Tower, St. Louis, MO 63141, USA; Tel: (314) 720-0900; Fax: (314) 548-6555; E-mail: [dslarson82@gmail.com](mailto:dslarson82@gmail.com)



**Fig. (1).** There is moderate to large amount of ascites and a membrane coating the bowel measuring roughly 2 to 3 mm in thickness with some enhancement. There is also some evidence of membrane formation along the parietal surface of the peritoneum. There is no evidence of plaque-like calcification.



**Fig. (2).** (a) The cocoon encasing the bowel loops after it was carefully separated from the anterior abdominal wall. (b) The bowel loops can be seen here after the capsule was carefully taken down and the dense interloop adhesions were lysed.

## CONFLICT OF INTEREST

The authors confirm that this article content has no conflict of interest.

## ACKNOWLEDGEMENTS

Declared none.

## REFERENCES

- [1] Kawanishi H. Surgical and medical treatments of encapsulation peritoneal sclerosis. *Contrib Nephrol* 2012; 177: 38-47. [<http://dx.doi.org/10.1159/000336934>] [PMID: 22613913]
- [2] Moinuddin Z, Summers A, Van Dellen D, Augustine T, Herrick SE. Encapsulating peritoneal sclerosis-a rare but devastating peritoneal disease. *Front Physiol* 2014; 5: 470. [PMID: 25601836]

- [3] Habib SM, Betjes MG, Fieren MW, *et al.* Management of encapsulating peritoneal sclerosis: a guideline on optimal and uniform treatment. *Neth J Med* 2011; 69(11): 500-7.  
[PMID: 22173363]

---

Received: August 10, 2014

Revised: August 10, 2014

Accepted: March 10, 2015

© Larson *et al.*; Licensee *Bentham Open*.

This is an open access article licensed under the terms of the Creative Commons Attribution-Non-Commercial 4.0 International Public License (CC BY-NC 4.0) (<https://creativecommons.org/licenses/by-nc/4.0/legalcode>), which permits unrestricted, non-commercial use, distribution and reproduction in any medium, provided the work is properly cited.