International Journal of Gerontology 14 (2020) 350–351
https://doi.org/10.6890/IJGE.202011_14(4).0019

International Journal of Gerontology

journal homepage: http://www.sgecm.org.tw/ijge/

Case Report

Encapsulating Peritoneal Sclerosis in an Elderly

Yu-Jen Lee [a,b,c], Ming-Jen Chen [a,b,c *], Horng-Yuan Wang [a,b,c], Wei-Chen Lin [a,b,c]

[a] *Division of Gastroenterology, Department of Internal Medicine, Mackay Memorial Hospital, Taipei, Taiwan,* [b] *Department of Nursing, MacKay Junior College of Medicine, Nursing and Management, Taipei, Taiwan,* [c] *Department of Medicine, MacKay Medical College, New Taipei City, Taiwan*

ARTICLE INFO

Accepted 9 March 2020

Keywords:
elderly,
encapsulating peritoneal sclerosis,
CAPD

SUMMARY

Continuous ambulatory peritoneal dialysis (CAPD) is the most portable type of dialysis. Encapsulating peritoneal sclerosis (EPS) is a rare but devastating complication of CAPD. We report the case of a 65-year-old man with uremia who was under CAPD for a long time and presented with refractory abdominal pain. Abdominal X-ray showed several linear calcification in the bowel loop. Abdominal computer tomography showed coarse calcification in the peritoneum, omentum, and mesentery surrounding some small bowel loops. Based on the findings, EPS was diagnosed. After using tamoxifen and prednisolone, the patient was discharged with improved symptoms.

1. Introduction

Continuous ambulatory peritoneal dialysis (CAPD) is the most portable type of dialysis. CAPD in elderly patients is increasingly important due to the rapid growth of this population and also have several advantages and disadvantages.[1] However, its long-term effectiveness is limited by its complications. Encapsulating peritoneal sclerosis (EPS) is most commonly associated with long-term peritoneal dialysis. The mechanism of EPS is multifactorial, such as inflammation and cytokines. Non-specific symptoms such as intermittent abdominal pain and abdominal distention might lead to other diagnoses. Thus, EPS should be considered in long-term CAPD patients with abdominal pain.

2. Case report

A 65-year-old man with a history of uremia received CAPD for more than 10 years. Previously, he had complained of abdominal pain and diagnosed with non-ST elevation myocardial infarction with elevated troponin-I level (4.68 ng/mL). Cardiac catheterization revealed triple vessel occlusion, and the patient underwent dual antiplatelet therapy. Upon considering abdominal pain with elevated amylase level (444 U/L), and abdominal ultrasound showed sludge and stone in the gallbladder, biliary pancreatitis was impressed. The patient was discharged with symptomatic treatment of hydration and antibiotics.

Unfortunately, he complained of abdominal pain accompanied with watery diarrhea and fever. Laboratory data revealed elevated white blood count (25100/uL), C-reactive protein level (5.44 mg/dL), and amylase level (299 U/L). His body mass index (44 kg/1.63 m) was 16.5, which indicated that he was under-weight with poor nutrition. Ceftriaxone 1 g was prescribed for suspected intra-abdominal infection. However, his abdominal pain was persistent. Abdominal X-ray showed several linear calcification in the bowel loops (Figure 1), and computed tomography showed coarse calcification in the peritoneum, omentum, and mesentery surrounding some small bowel loops; accordingly, encapsulating peritoneal sclerosis was impressed (Figure 2). We removed the peritoneal dialysis catheter and shifted to hemodialysis via venous catheter. Furthermore, we prescribed tamoxifen 10 mg twice daily and prednisolone 5 mg twice daily. The patient was discharged after his conditions improved.

3. Discussion

EPS is a rare but high mortality disease in long-term CAPD patients. The annual incidence of EPS varies from 0.14% to 2.5%, with decreasing incidence been reported in more recent studies likely due to improved dialysis techniques. The mean age was 34.7 (range 7–87 years), with a 2:1 male predominance.[2] In France, CAPD is commonly used among elderly patients, and more than one-half of all CAPD patients are > 70 years old. In Hong Kong, 80% of all dialysis patients are on CAPD, and the median age of these patients is 62 years. In Canada, the majority of patients starting dialysis are older than 65 years.[1] The mechanism of EPS is multifactorial, like persistent to peritoneal dialysate and cytokines (transforming growth factor β1 (TGFβ1), interleukin-6 (IL-6), CCN2, vascular endothelial growth factor (VEGF)). However, the certain hypothesis is yet to be identified.[2]

Clinical symptoms of EPS are non-specific, such as abdominal pain, abdominal distention, and nausea and vomiting. Sometimes, the condition might be diagnosed as gastrointestinal disorders such as malnutrition, acute bowel obstruction, ischemic bowel, and perforation. The diagnosis of EPS is based on clinical features (anorexia, nausea, and vomiting) and radiologic findings (thickening and calcification of the bowel wall and calcification of the peritoneum).[3,4]

* Corresponding author. Division of Gastroenterology, Department of Internal Medicine, MacKay Memorial Hospital, No. 92, Sec. 2, Chung-Shan North Road, Taipei, Taiwan.
E-mail address: mingjen.ch@msa.hinet.net (M.-J. Chen)

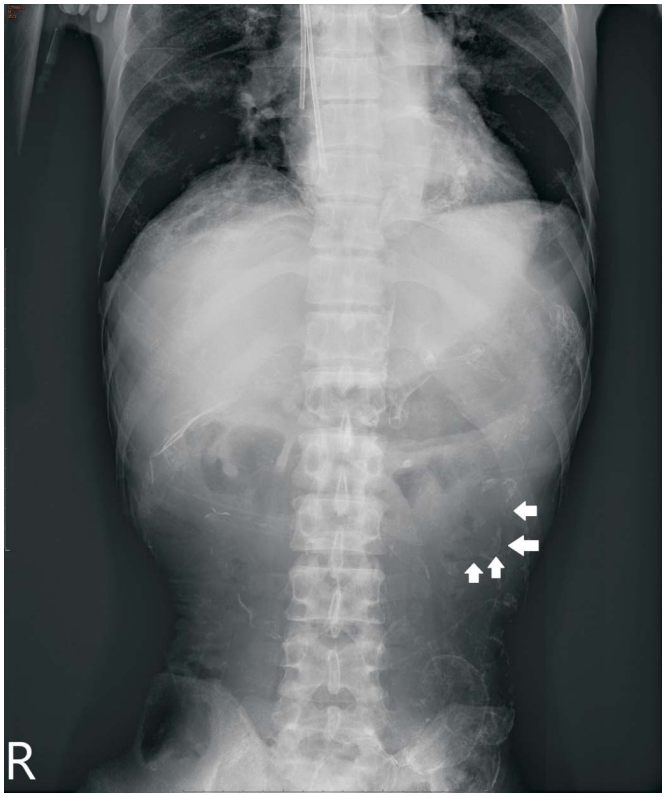

Figure 1. Several linear calcification in the bowel loops.

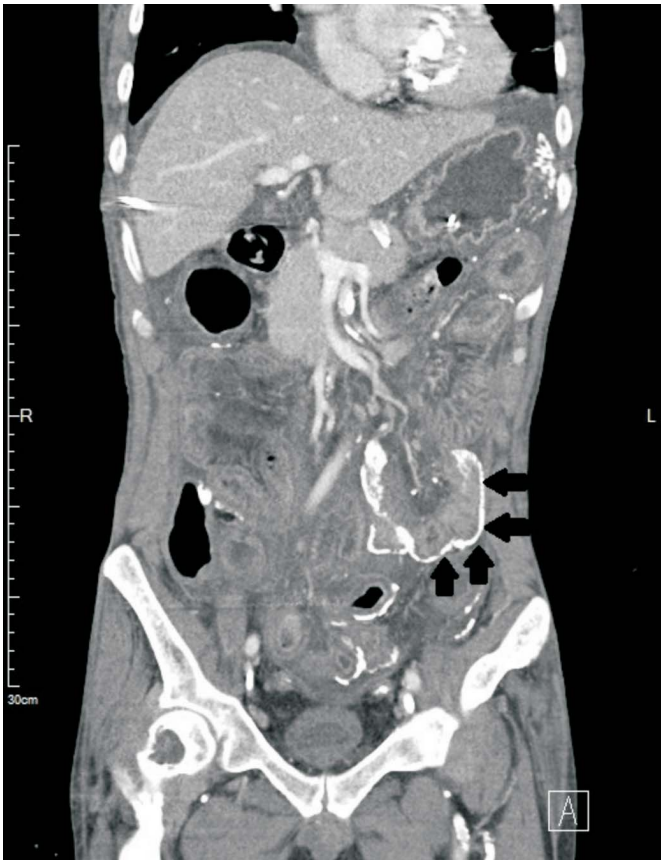

Figure 2. Coarse calcification in the peritoneum, omentum and messengers surrounding some small bowel loops.

Laboratory findings in EPS are non-specific and related to the underlying infection, malnutrition, and inflammation. No biomarker has been detected for predicting in EPS.[2] In a multicenter study conducted in Japan, the cause of death was mostly sepsis, followed by perforation peritonitis.[5]

Management of EPS include parenteral nutrition and drug therapies such as corticosteroid, tamoxifen, and immunosuppression, which have been reported to have beneficial effects.[2] Surgical intervention also plays an important role when bowel obstruction shows no improvement after medication treatment.[2,5]

In conclusion, refractory abdominal pain and abdominal distention are common in long-term CAPD patients. Early radiologic finding such as CT or abdominal X-ray show linear or coarse calcification in the bowel loops and fail to show improvement after medical treatment. EPS should be taken into consideration as a warning sign.

Conflicts of interest

None.

References

1. Sakacı T, Ahbap E, Koc Y, et al. Clinical outcomes and mortality in elderly peritoneal dialysis patients. *Clinics (Sao Paulo).* 2015;70:363–368.
2. Danford CJ, Lin SC, Smith MP, et al. Encapsulating peritoneal sclerosis. *World J Gastroenterol.* 2018;24:3101–3111.
3. Brown EA, Bargman J, van Biesen W, et al. Length of time on peritoneal dialysis and encapsulating peritoneal sclerosis - position paper for ISPD: 2017 update. *Perit Dial Int.* 2017;37:362–374.
4. Ti JP, Al-Aradi A, Conlon PJ, et al. Imaging features of encapsulating peritoneal sclerosis in continuous ambulatory peritoneal dialysis patients. *AJR Am J Roentgenol.* 2010;195:W50–W54.
5. Kawanishi H, Kawaguchi Y, Fukui H, et al. Encapsulating peritoneal sclerosis in Japan: a prospective, controlled, multicenter study. *Am J Kidney Dis.* 2004;44:729–737.