

Images of Interest / Imagens de Interesse

Peritoneal Dialysis-Related Encapsulating Peritoneal Sclerosis*Peritonite Esclerosante Encapsulante Relacionada com Diálise Peritoneal*Luísa Amado Costa¹, Raquel Gaio¹, Mariana Roque², José Fonseca Santos³¹Interna de Radiologia, Serviço de Imagiologia Geral, Centro Hospitalar Universitário Lisboa Norte, E.P.E - Hospital de Santa Maria, Lisboa, Portugal²Assistente hospitalar de Radiologia, Serviço de Imagiologia Geral, Centro Hospitalar Universitário Lisboa Norte, E.P.E - Hospital de Santa Maria, Lisboa, Portugal³Assistente hospitalar graduado sénior de Radiologia/ Diretor de Serviço, Serviço de Imagiologia Geral, Centro Hospitalar Universitário Lisboa Norte, E.P.E - Hospital de Santa Maria, Lisboa, Portugal**Address**Luísa Amado Costa
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email: al30costa@gmail.com**Abstract**

Encapsulating peritoneal sclerosis is a rare and important complication of peritoneal dialysis. It is characterized by diffuse peritoneal fibrous thickening, leading to intestinal encapsulation, which may result in intestinal obstruction. The diagnosis of this condition is usually suspected clinically and can be confirmed radiologically. Computed tomography is the best imaging method for the diagnosis of this entity. We present a case of a patient diagnosed with encapsulating peritoneal sclerosis that occurred after discontinuation of peritoneal dialysis and presented characteristic computed tomography findings of this disease.

Keywords

Encapsulating peritoneal sclerosis; Computed tomography; Peritoneal dialysis.

Resumo

A peritonite esclerosante encapsulante é uma complicação rara e importante da diálise peritoneal. É caracterizada por espessamento fibroso difuso do perítoneu, que conduz a encapsulamento intestinal e que se pode complicar de oclusão intestinal. O diagnóstico desta entidade é suscitado clinicamente e pode ser confirmado radiologicamente, sendo a tomografia computadorizada o melhor método de imagem para o seu diagnóstico. Apresentamos o caso dum doente diagnosticado com peritonite esclerosante encapsulante que ocorreu após descontinuação de diálise peritoneal, e que apresentou achados característicos desta patologia na tomografia computadorizada.

Palavras-chave

Diálise peritoneal; Peritonite esclerosante encapsulante; Tomografia computadorizada.

A 47 year-year-old man on hemodialysis who previously underwent bilateral nephrectomy presented at the emergency department with a two-week history of progressive increase in abdominal girth, nausea, and fever. The patient had undergone peritoneal dialysis (PD) for several years and had presented multiple PD catheter-associated infections. At physical examination, the abdomen was distended and non-tender, and signs of ascites were present. Laboratory tests revealed an elevated C-reactive protein and anemia. Abdominal ultrasound demonstrated a septated ascites with some debris within the fluid. Paracentesis revealed a serosanguineous exudative ascites. Contrast-enhanced computed tomography (CT) presented a voluminous ascites, with peritoneal/serosal thickening and enhancement (figures 1, 2 and 3); an embedded

PD catheter was present. Clustered small-bowel loops with diffuse wall thickening were seen within a contrast-enhancing membranelike sac. The CT findings were in keeping with encapsulating peritoneal sclerosis (EPS).

The patient was admitted to the hospital. The PD catheter was exteriorized, daily peritoneal lavage was performed, and treatment with tamoxifen and corticosteroids was initiated. The patient was clinically improved over the following days, and the abdominal CT performed two weeks later revealed reduction of the ascitic volume and less evident peritoneal enhancement. The patient was discharged on oral corticosteroids and tamoxifen.

Peritoneal fibrosing syndromes in PD patients include a spectrum of changes ranging from the relatively common simple peritoneal sclerosis to the rare EPS.

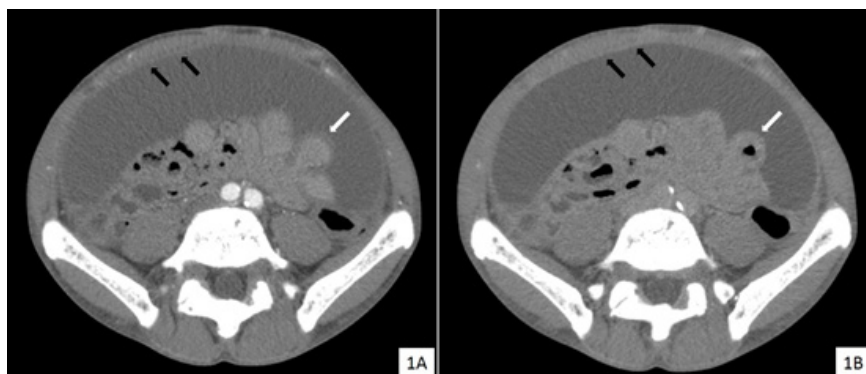


Figure 1 – Axial contrast-enhanced abdominal CT scan images, in the late arterial phase (1A) and delayed phase (1B), show a large amount of ascites surrounded by a thickened, contrast-enhancing fibrotic peritoneum (black arrows). Small-bowel loops are enclosed by fibrotic peritoneum and present a diffusely thickened wall (white arrows). Note how the thickened peritoneum/serosa demonstrates delayed enhancement.



Figure 2 – Axial contrast-enhanced abdominal CT scan image shows ascites surrounded by a thickened, contrast-enhancing fibrotic peritoneum. The ascites is exerting mass effect on the liver (arrows).

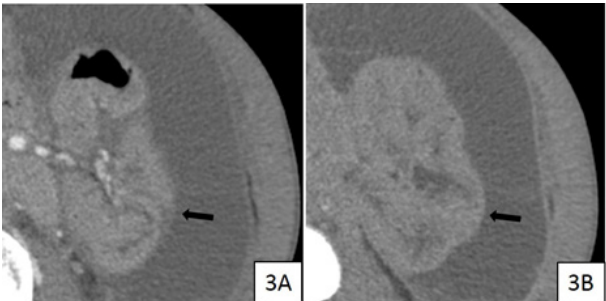


Figure 3 – Axial contrast-enhanced abdominal CT scan images, in the late arterial phase (3A) and delayed phase (3B), show a clustering of thick-walled small-bowel loops, encased by the fibrotic peritoneum demonstrating progressive delayed enhancement (black arrows).

EPS is a chronic inflammatory condition of the peritoneum of unknown etiology. It is a serious and potentially life-threatening complication of PD.

EPS is characterized by the formation of a thin membrane on the visceral peritoneum. The peritoneal fibrous thickening can encapsulate variable lengths of bowel, which may result in intestinal obstruction. Although EPS primarily involves the small bowel, it may also involve other organs such as the colon and liver.

EPS appears to be more common in patients that have been on PD for longer periods of time and can occur after discontinuation of PD.¹

EPS diagnosis is usually suspected clinically and can be confirmed radiologically. Early symptoms include, anorexia, nausea, diarrhea, and abdominal pain; more severe symptoms and signs include constipation and abdominal mass accompanied by severe malnutrition and weight loss; occasionally, early EPS presents an inflammatory state including general fatigue, fever, and slight weight loss, with an elevated C-reactive protein, hypoalbuminemia, and anemia.¹

The CT findings of the case presented were similar to those of other reported cases.²⁻⁴ CT is the best imaging modality for EPS diagnosis. CT findings of EPS include: central clustering of small-bowel loops encased by a membrane-like sac (the encapsulating fibrotic peritoneum); contrast-enhancement of the thickened peritoneum; small-bowel wall thickening; adherent bowel loops; bowel luminal narrowing; bowel obstruction; peritoneal calcifications; loculated ascites.²⁻⁴ The presence of a fibrous cocoon (the encapsulating fibrotic peritoneum) wrapped around the bowel strongly suggests the diagnosis of EPS.

In the appropriate clinical setting, CT findings can be indicative of diagnosis. So, radiologists should be familiar with the CT aspects of EPS.

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Protection of human and animal subjects: The authors declare that the procedures followed were in accordance with the regulations of the relevant clinical research ethics committee and with those of the Code of Ethics of the World Medical Association (Declaration of Helsinki).

Proteção de pessoas e animais: Os autores declaram que os procedimentos seguidos estavam de acordo com os regulamentos estabelecidos pelos responsáveis da Comissão de Investigação Clínica e Ética e de acordo com a Declaração de Helsínquia da Associação Médica Mundial.

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