NDT Plus (2010) 3: 414–415
doi: 10.1093/ndtplus/sfq089
Advance Access publication 19 May 2010

NDT PLUS
Nephrology Dialysis Transplantation

Images in Nephrology
(Section Editor: G. H. Neild)

Angiogenesis and cellularity in encapsulating peritoneal sclerosis

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Keywords: angiogenesis; cellularity; encapsulating peritoneal sclerosis; vessels

The first patient, a 68-year-old man, was admitted for peritoneal dialysis (PD) catheter explantation because of ultrafiltration failure and symptoms of bowel obstruction. PD was performed for 30 months with neutral PD fluids and icodextrin. There was a history of two episodes of peritonitis, and a high transporter status. Computed tomography (CT) scan showed ascites, calcifications, and thickening of the peritoneum and encapsulated intestinal loops ('cocooning'). C-reactive protein was 10-fold elevated, and the analysed cultures of the ascites were negative. The patient underwent surgery because of acute ileus. CD34 staining, which is expressed by endothelial cells of capillaries, of the visceral peritoneum showed a decreased number of vessels with an accentuated intracellular matrix and a decrease in cellularity (Figure 1).

The second patient, a 24-year-old male, was admitted because of chronic ileus. Duration of PD was 54 months with six episodes of peritonitis. There was an ultrafiltration failure in the last 3 months, and the transporter status turned to high using neutral solution and icodextrin. CT scan showed ascites, thickening of the peritoneum, cocooning and extended bowel loops. C-reactive protein was 50-fold elevated, and ascites cultures were negative. The biopsy of the visceral peritoneum and the CD34 staining showed an increased number of vessels and cellularity (Figure 2).

Encapsulating peritoneal sclerosis (EPS) is not always associated with an increased number of vessels in the peritoneum [1]. In our biopsy registry of >200 patients, the majority of patients with EPS (n = 38) present with increased cellularity and angiogenesis. This is in line with many of the published cases [2]. Nevertheless, we also see biopsies with a decreased number of vessels and reduced cellularity, and an increase of intracellular matrix [3]. On any number of occasions, there is a wide variability of cellularity and number of vessels in the same slide.

Acknowledgement. Results presented in this paper have not been published previously in whole or part.

Conflict of interest statement. None declared.

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Received for publication: 16.4.10; Accepted in revised form: 26.4.10

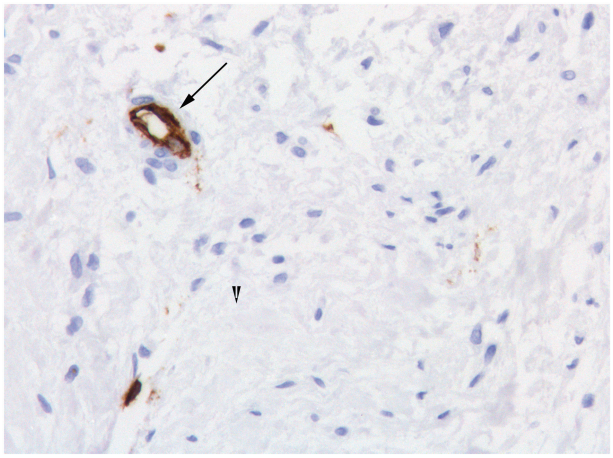

Fig. 1. CD34-stained section (original magnification ×400) showing a decreased number of vessels (arrow) and a loss in cellularity with an increased amount of intracellular matrix (arrowhead).

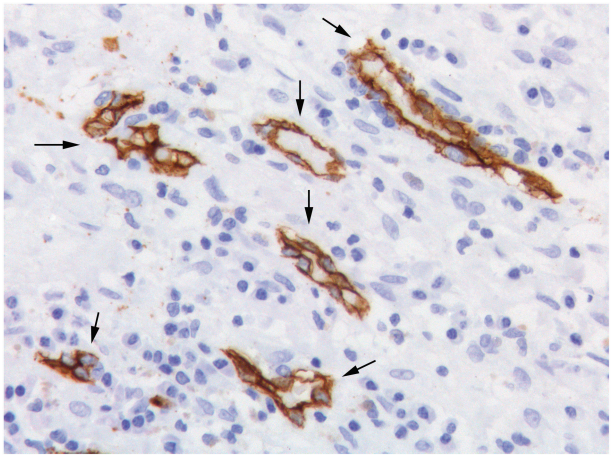

Fig. 2. CD34-stained section (original magnification ×400) showing an increased number of vessels (arrows) and an increased cellularity with less intracellular matrix.