

Clinical Image

Peritoneal scintigraphy scan in the diagnosis of pleuroperitoneal leak<sup>☆</sup>

Gammagrafía peritoneal en el diagnóstico de la comunicación peritoneo-pleural

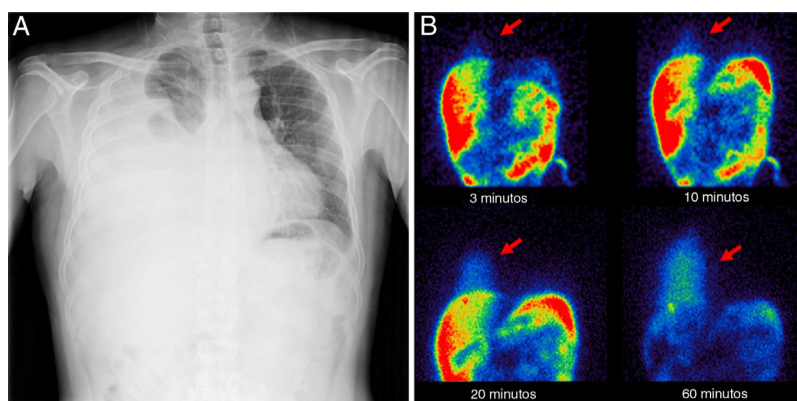
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We report the case of a 48-year-old man with chronic kidney disease who developed weight gain associated with dyspnea, 2 months after starting peritoneal dialysis (PD). Examination revealed absent right breath sounds, and chest X-ray (Fig. 1a) confirmed the existence of massive pleural effusion. Thoracentesis was performed, yielding 1,600 ml of transudate in pleural fluid. Pleuroperitoneal leak was suspected, so the nuclear medicine department was requested to perform peritoneal scintigraphy.

Pleural effusion is a rare complication in patients receiving peritoneal dialysis (2%). It may be caused by congenital diaphragmatic defects, but also by an increase in intra-abdominal pressures due to PD itself.<sup>1</sup> Peritoneal scintigraphy is a simple, non-invasive technique that determines the existence and intensity of the pleuroperitoneal leak, with the aim of offering patients the most appropriate treatment.<sup>2</sup>



**Fig. 1.** a) Posteroanterior chest X-ray showing increased radiation density in right hemithorax consistent with massive pleural effusion; b) peritoneal scintigraphy showing rapid diffusion of the radiotracer from the peritoneal cavity to the right hemithorax, which is most obvious in static images acquired in posterior projection after 60 min. This image is consistent with pleuroperitoneal fistula.

After injection of <sup>99m</sup>Tc-phytate into the dialysis fluid, radio-pharmaceutical diffusion from the peritoneal cavity to the right pleural cavity, consistent with pleuroperitoneal fistula, occurred in the third minute (Fig. 1b, red arrow). Given the speed and intensity of the diffusion, the peritoneal catheter was removed, and the patient was switched to the final step of hemodialysis.

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