

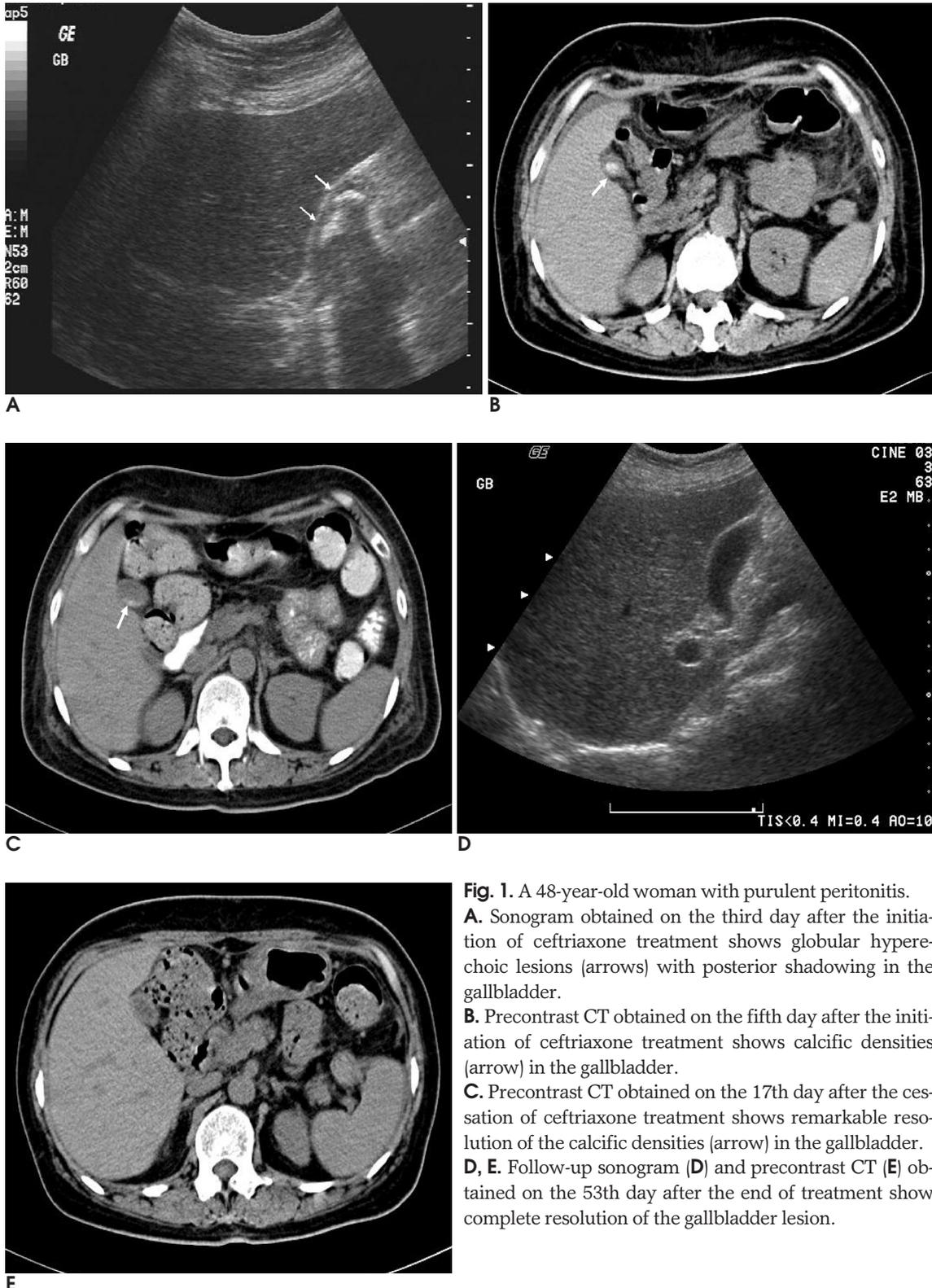
# 가 (Ceftriaxone) (Biliary Pseudolithiasis) CT : 2 1

(ceftriaxone) . 가 (biliary pseudolithiasis)  
 (ceftriaxone) 가 가 .  
 가 CT 가 , CT  
 가 (pseudolithiasis) 2 CT

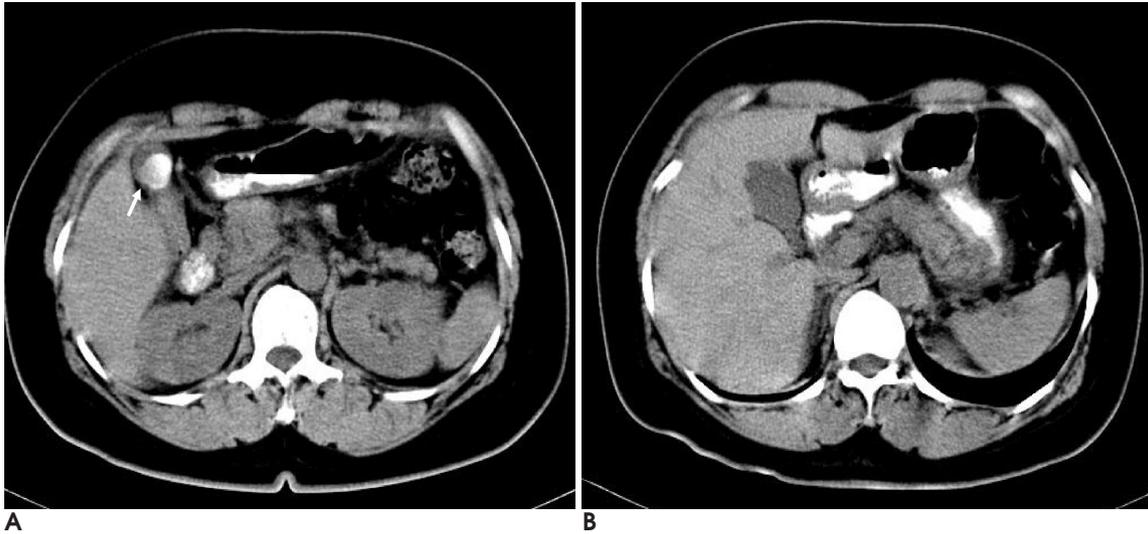
3  
 (cephalosporin) 가 8  
 가 가  
 (1, 2). 1  
 가 , 48 가 7 10  
 가 (pseudolithiasis)  
 (3). Shaad ,  
 1986 가 18 가 가  
 972/mm<sup>3</sup> (90% neutrophil leucocytes)  
 (4). 4680/mm<sup>3</sup> 가 5 가  
 가 가 (reversible ceftriaxone -  
 associated biliary pseudolithiasis) (5). 12 2 2.0 g 3  
 (5-7). 가 가  
 (Fig. 1A). 2 CT  
 (5, 8). CT (Fig. 1B). 16  
 CT 17 CT  
 CT (Fig. 1C). 53 CT  
 (Fig. 1D, E).  
 2  
 44 가 10  
 5.5 cm

2.0 g 2 8 CT (Fig. 2B).  
15 CT

(Fig. 2A). 134 ( 4 )



**Fig. 1.** A 48-year-old woman with purulent peritonitis.  
**A.** Sonogram obtained on the third day after the initiation of ceftriaxone treatment shows globular hyperechoic lesions (arrows) with posterior shadowing in the gallbladder.  
**B.** Precontrast CT obtained on the fifth day after the initiation of ceftriaxone treatment shows calcific densities (arrow) in the gallbladder.  
**C.** Precontrast CT obtained on the 17th day after the cessation of ceftriaxone treatment shows remarkable resolution of the calcific densities (arrow) in the gallbladder.  
**D, E.** Follow-up sonogram (D) and precontrast CT (E) obtained on the 53th day after the end of treatment show complete resolution of the gallbladder lesion.



**Fig. 2.** A 44-year-old woman with liver abscess.

**A.** Precontrast CT obtained on the 15th day after the initiation of ceftriaxone treatment shows a round calcific density (arrow) in the gallbladder.

**B.** Follow-up precontrast CT obtained on the 134th day after the end of treatment shows complete resolution of the gallbladder lesion.

6 2 3  
(3, 5, 8, 9).  
가  
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65% 가  
(2). 20 - 150 가  
(2, 3). 1991 가  
Park Palanduz 8 (8).  
4 가  
(pseudolithiasis) , , 가  
1:1 , 가  
(3). (77%) 가  
가 (biliary) 가  
pseudolithiasis) . (10).  
Shaad  
37 16 (43%) 가  
3 (19%) 가 CT  
(5). Pigrau 20 5  
(25%)  
(6). Palanduz  
17% Shaad  
(7). 가 CT  
3 6 (9) 1 가  
(10). 가 CT  
가 가  
, , 가  
(5). 가

가

CT

가 가

1. Cleeland R, Squires E. Antimicrobial activity of ceftriaxone: a review. *Am J Med* 1984;77:3-11
2. Arvidsson A, Alvan G, Angelin B, Borga O, Nord CE. Ceftriaxone: renal and biliary excretion and effect on the colon microflora. *J Antimicrob Chemother* 1982;10: 207-215
3. Park HZ, Lee SP, Schy AL. Ceftriaxone-associated gallbladder sludge. Identification of calcium-ceftriaxone salt as a major compo-

nent of gallbladder precipitate. *Gastroenterology* 1991;100:1665-1670

4. Schaad UB, Tschappeler H, Lentze MJ. Transient formation of precipitations in the gallbladder associated with ceftriaxone therapy. *Pediatr Infect Dis* 1986;5:708-710
5. Schaad UB, Wedgwood-Krucko J, Tschappeler H. Reversible ceftriaxone-associated biliary pseudolithiasis in children. *Lancet* 1988 17;2:1411-1413
6. Pigrau C, Pahissa A, Gropper S, Sureda D, Martinez Vazquez JM. Ceftriaxone-associated biliary pseudolithiasis in adults. *Lancet* 1989 15;2:165
7. Palanduz A, Yalcin I, Tonguc E, Guler N, Ones U, Salman N, et al. Sonographic assessment of ceftriaxone-associated biliary pseudolithiasis in children. *J Clin Ultrasound* 2000;28:166-168
8. Kirejczyk WM, Crowe HM, Mackay IM, Quintiliani R, Cronin EB. Disappearing "gallstones": biliary pseudolithiasis complicating ceftriaxone therapy. *AJR Am J Roentgenol* 1992;159:329-330
9. Sahni PS, Patel PJ, Kolawole TM, Malabarey T, Chowdhury D, Rashed Gorish ME. Ultrasound of ceftriaxone-associated reversible cholelithiasis. *Eur J Radiol* 1994;18:142-145
10. . Ceftriaxone Pseudolithiasis: . 2000;19:171-176

## Ceftriaxone-Associated Biliary Pseudolithiasis: Sonographic and CT Findings<sup>1</sup>

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Ceftriaxone is known to induce a precipitation in the gallbladder that mimics gallstones on sonography in the children and adults. "Biliary pseudolithiasis" is now used to describe this reversible, benign complication accompanying ceftriaxone therapy. It is important to be aware of this adverse effect because it does not need any specific treatment. To our knowledge, there have not been any reports of CT findings of ceftriaxone-associated biliary pseudolithiasis in literature. We herein report two cases of ceftriaxone-associated biliary pseudolithiasis with sonographic and CT findings, which were completely resolved after the cessation of ceftriaxone therapy.

**Index words :** Gallbladder, ultrasonography (US)  
Gallbladder, computed tomography (CT)  
Gallbladder, abnormality

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