

:

(SS - TSE) SENSE

3

(3D - TSE)

1

.

: (Magnetic Resonance Cholangiopancre -
 atography; MRCP)
 Sense encoding (SENSE) 3
 : 2003 8 1 MRCP 141 . MRCP
 , 3
 , (Computed Tomography; CT
)
 . 47가 가
 : 141 135 69
 (51%) . 85%
 (=0.94). 4가
 3 가
 , 3 (p <0.01).
 : MRCP 가

MRCP T2

Sensitivity encoding (SENSE) 3

가 .

(Endoscopic Retrograde Cholangio -
 pancreatography; ERCP)

MRCP

SENSE

3

가 (1 - 4).

ERCP

가

가

2003 8 1 MRCP 141

(5).

가

가 77 , 가 58

54.9 (18 - 91) .

ERCP

1.5 T

(Philips

(3, 6)

Medical Systems, Intera, The Netherlands)

.

1

2005 8 3

2005 9 16

.

T2

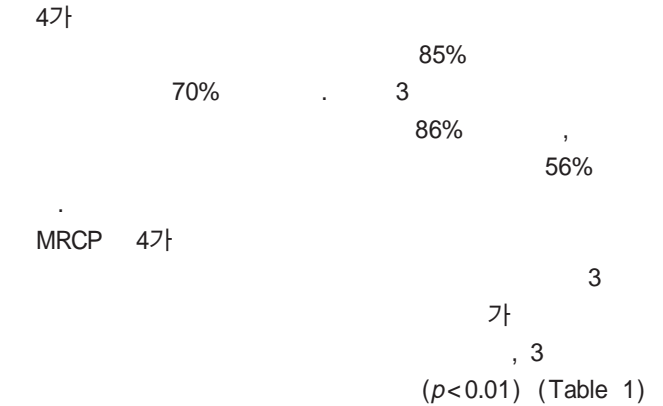
(source image)

:

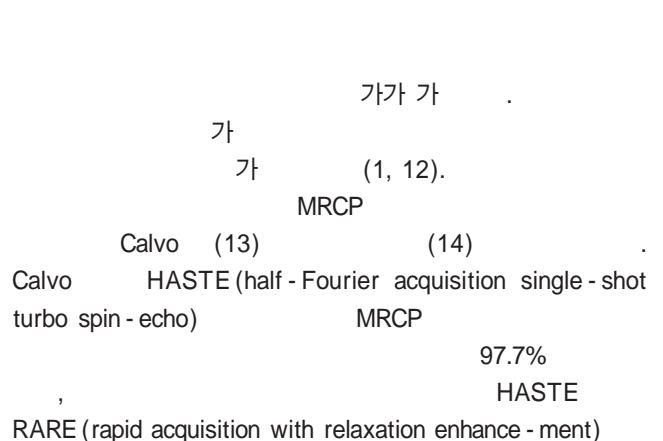
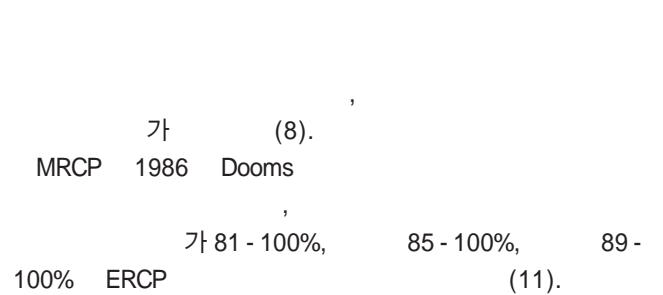
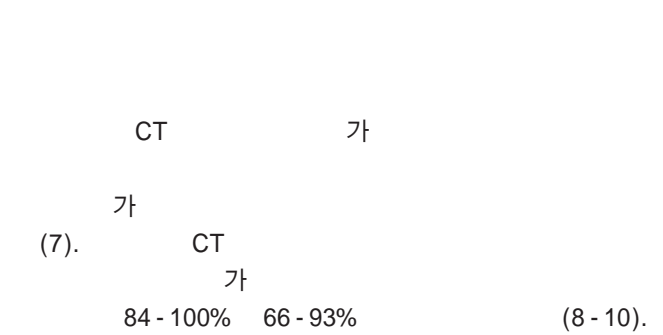
Table 1. Comparison of Four Different MR Techniques in the Evaluation of Gallstones

| | SSTSE | | 3DTSE | |
|--------------|--------------------|---------------|----------------------|-----------|
| | source axial image | coronal image | source coronal image | MIP image |
| Accuracy (%) | 85 | 70 | 86 | 56 |

(Fig. 1).



(Fig. 2).



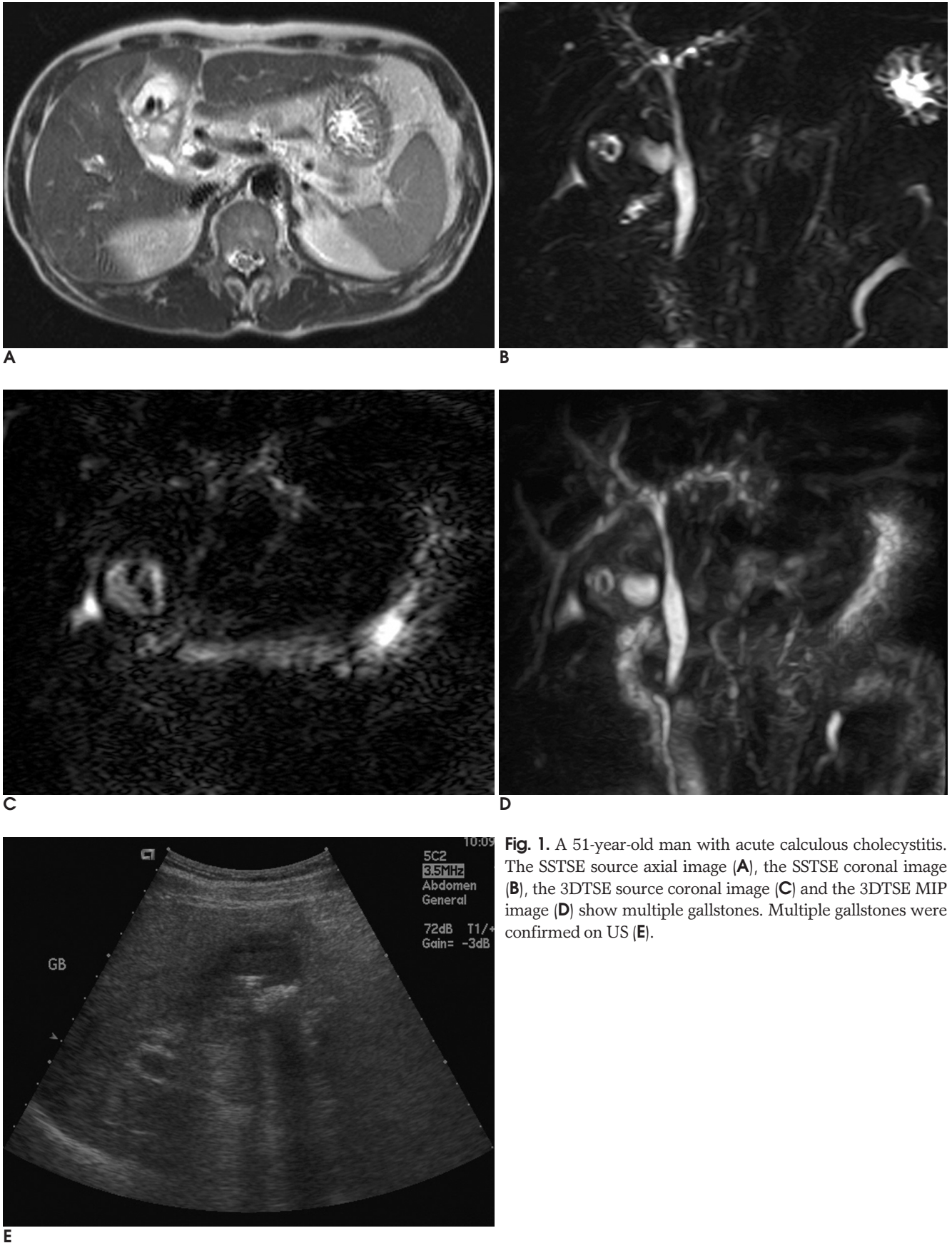


Fig. 1. A 51-year-old man with acute calculous cholecystitis. The SSTSE source axial image (A), the SSTSE coronal image (B), the 3DTSE source coronal image (C) and the 3DTSE MIP image (D) show multiple gallstones. Multiple gallstones were confirmed on US (E).

(4).
MRCP가 ,
가 , HASTE
가
(15, 16). HASTE single - shot RARE
(6).
SENSE
3 ,
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가
.
(17).
가
CT
 , 가
.
MRCP
SENSE
3 가 가

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The Detection of Gallstones on MR Cholangiopancreatography: Comparison between the Single-Shot Turbo Spin-Echo Pulse Sequence and the Three-Dimensional Turbo Spin-Echo Pulse Sequence with the SENSE Technique¹

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Purpose: We wanted to evaluate the detectability of gallstones on magnetic resonance cholangiopancreatography (MRCP) and to compare the accuracy between the single-shot turbo spin-echo (SSTSE) sequence and the three-dimensional turbo spin-echo (3DTSE) sequence with the sensitivity encoding (SENSE) technique.

Materials and Methods: A total of 141 patients who had undergone MRCP for a year period since August, 2003 were involved in the study. The source axial-SSTSE, coronal-SSTSE, source coronal-3D TSE and maximum intensity projection (MIP)-3DTSE images were obtained. Based on the operative findings and the findings of the ultrasound and CT examinations, the results of the reading by two investigators for the presence of gallstones were compared and analyzed.

Results: Among 141 patients, 135 patients were included in the study. 69 cases (51%) were found to have gallstones. In terms of detection of gallstones, the accuracy was 85%. The reading by one investigator greatly accorded with that of the other investigator ($\kappa = 0.94$). As a result of comparing the four kinds of images obtained with the different techniques, it was found that gallstones were seen best on the source axial-SSTSE and source coronal-3DTSE images; the coronal-SSTSE image was the next best image and the MIP-3DTSE image followed ($p < 0.01$).

Conclusion: The detectability of gallstones on MRCP was relatively excellent and the source axial-SSTSE and source coronal-3DTSE imagings should be included for the detection of gallstones.

Index words : Magnetic resonance (MR)
Gallbladder
Gallstone

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