

The Changes of Electrogastrographic Findings and Gastric Fullness before and after Rice Soup in Patients with Dysmotility-like Functional Dyspepsia

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Background/Aims: The aim of this study was to evaluate the changes of electrogastrographic findings and gastric fullness before and after feeding rice soup in patients with dysmotility-like functional dyspepsia (DLFD). **Methods:** The study was performed on 87 patients with DLFD and 50 normal controls. Abdominal surface electrogastrography was applied for 30 min in the fasting state and for 30 min after feeding rice soup. **Results:** Patients with DLFD showed higher scale of gastric fullness in fasting baseline and postprandial 30 min, comparing to normal controls. Significant differences were found between the patients with DLFD and normal controls in the percentage of fed 3 cpm slow waves, in the power ratio, and in the percentage of fed bradygastria and fed tachygastria. In the percentage of fasting 3 cpm waves, the percentage of fasting bradygastria and fasting tachygastria, and the dominant frequency of either fasting or fed electrogastrography, the patients and the normal controls did not show difference. No correlation was found between the percentage of 3 cpm slow waves and the scale of gastric fullness. **Conclusions:** Patients with DLFD have a low percentage of normal gastric slow waves in the fed electrogastrography and have a lower power ratio (**Kor J Gastroenterol 1998;32:709 - 716**)

Key Words: Dysmotility-like functional dyspepsia, Electrogastrography, Rice soup

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(functional dyspepsia)

1996

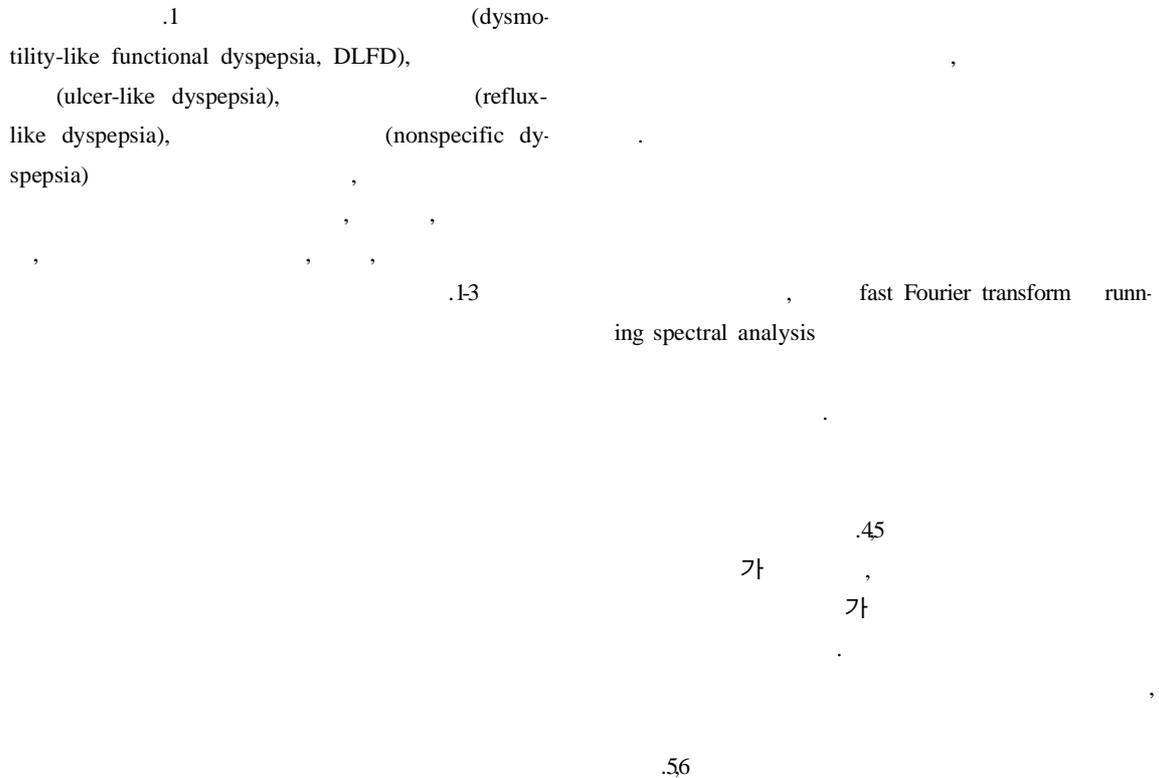


Fig. 1. Change of gastric fullness. Higher scale of gastric fullness in preprandial and postprandial period is shown in patients with dysmotility-like functional dyspepsia (DLFD).

Table 1. Changes of Electrogastrographic Findings and Gastric Fullness in Patients with dysmotility-like functional dyspepsia (DLFD) and Control Group

	DLFD	Control	P value
Fullness-pre	97.5 ± 69.7	43.1 ± 35.8	<0.001
Fullness-post	142.0 ± 58.8	101.9 ± 37.8	<0.001
3 cpm-pre	62.0 ± 25.1	69.8 ± 21.8	>0.05
3 cpm-post	62.8 ± 25.2	81.8 ± 20.0	<0.001
Tachygastria-pre	22.9 ± 18.2	17.2 ± 16.1	>0.05
Tachygastria-post	23.8 ± 20.0	10.6 ± 14.7	<0.001
Bradygastria-pre	14.6 ± 13.3	11.4 ± 11.0	>0.05
Bradygastria-post	12.7 ± 11.3	7.7 ± 8.9	<0.01
Power ratio	1.3 ± 1.3	2.9 ± 3.5	<0.01
PDF-pre	3.0 ± 0.5	3.1 ± 0.6	>0.05
PDF-post	3.2 ± 0.6	3.1 ± 0.3	>0.05

pre, preprandial; post, postprandial; PDF, period dominant frequency.

3.

1.

3

, ,

87

43.9 ± 12.6

1:3.1

50

1:2.3

가

2.

EKG version 6.30

2.1 g, 1.3 g,
Kcal)

visual analog scale (300 mm)

solid gel

2.4 cycle/min, 3 cpm 2.4 3.7 cycle/min,
3.7 10 cycle/min

Synetics Digitrapper

10

42.5 g(

29.8 g, 140

30

Ag-AgCl

5 cm

0

Windows

t-test

, p 0.05

가

SPSS/PC+

Student's

1.

43.1 ± 35.8, p<0.001), 30

(142.0 ± 58.8 vs 101.9 ± 37.8, p<0.001)(Table 1,

Fig. 1).

2.

3 cpm (62.8 ± 25.2 vs 81.8 ± 20.0, p<0.001)
power ratio (1.3 ± 1.3 vs 2.9 ± 3.5, p<0.01)

, (12.7 ± 11.3 vs 7.7 ± 8.9, p<0.01) (23.8 ± 20.0 vs 10.6 ± 14.7, p<0.001) 가

(14.6 ± 13.3 vs 11.4 ± 11.0, p>0.05)

(22.9 ± 18.2 vs 17.2 ± 16.1, p>0.05),

3 cpm (62.0 ± 25.1 vs 69.8 ± 21.8, p>0.05)

가

PDF (period dominant frequency) (3.0 ± 0.5 vs 3.1 ± 0.6, p>0.05) (3.2 ± 0.6 vs 3.1 ± 0.3 p>0.05) 가 (Table

1, Fig. 2, 3).

3.

3 cpm

(69.8 ± 21.8 vs 81.8 ± 20.0, p<0.001) (43.1 ± 35.8 vs 101.9 ± 37.8, p<0.001) 가

(11.4 ± 11.0 vs 7.7 ± 8.9, p>0.05)

(17.2 ± 16.1 vs 10.6 ± 14.7, p>0.05), PDF (3.1 ±

Table 2. Changes of Electrogastrographic Findings and Gastric Fullness in Pre and Postprandial Period

	Preprandial	Postprandial	P value
Control			
Fullness	43.1 ± 35.8	101.9 ± 37.8	<0.001
3 cpm	69.8 ± 21.8	81.8 ± 20.0	<0.001
Tachygastria	17.2 ± 16.1	10.6 ± 14.7	>0.05
Bradycastria	11.4 ± 11.0	7.7 ± 8.9	>0.05
PDF	3.1 ± 0.6	3.1 ± 0.3	>0.05
DLFD			
Fullness	97.5 ± 69.7	142.0 ± 58.8	<0.001
3 cpm	62.0 ± 25.1	62.8 ± 25.2	>0.05
Tachygastria	22.9 ± 18.2	23.8 ± 20.0	>0.05
Bradycastria	14.6 ± 13.3	12.7 ± 11.3	>0.05
PDF	3.0 ± 0.5	3.2 ± 0.6	>0.05

DLFD, dysmotility-like functional dyspepsia; PDF, period dominant frequency.

Fig. 2. Change of 3 cpm and power ratio. Significant decrease in postprandial 3 cpm and power ratio is shown in patients with dysmotility-like functional dyspepsia (DLFD).

0.6 vs 3.1 ± 0.3, p>0.05)
(Table 2).

가

4. 3 cpm

3 cpm

가 (Table 3).

(97.5 ± 69.7 vs 142.0 ± 58.8, p<0.001)

가 , 3 cpm (62.0 ± 25.1 vs
62.8 ± 25.2, p>0.05) 가 .

(14.6 ± 13.3 vs 12.7 ± 11.3, p>0.05) (22.9
± 18.2 vs 23.8 ± 20.0, p>0.05), PDF (3.0 ± 0.5 vs 3.2
± 0.6, p>0.05) 가 (Table 2).

gold standard 가

가 , 가

가 .6 , (one to one) 가

가 , 가

가 , 가

dominant power 가

.19 가

가 (gastro-

가가 paresis)

.221 가

가 (electro-mechanical uncoupling),

가 3 cpm 가

3 cpm 가 가

3 cpm 가가

가 . Power

가 ratio

(one to one) 3

.19 Chen McCallum22 cpm power ratio 가

가

. PDF 3 cpm 가

(domi- 23 가

가

ERA 가

가 가

가

가 (142.0 ± 58.8 vs 101.9 ± 37.8, p<0.001).
 .5
 .78 가
 .8
 3 cpm power ratio 가
 3 cpm 가가
 3 cpm power ratio 가 가
 가
 가
 87
 (: 1:3.1, 43.9 ± 12.6)
 50 (: 1:2.3, 41.1 ± 10.0)
 10
 42.5 g(2.1 g, 1.3 g, 29.8 g,
 140 Kcal) 30
 visual analog scale (300 mm)
 (Synetics , Digitrapper
 EGG, version 6.30) , 30
 :
 (97.5 ±
 69.7 vs 43.1 ± 35.8, p<0.001), 30

3 cpm (62.8 ± 25.2 vs 81.8 ± 20.0, p<0.001)
 power ratio (1.3 ± 1.3 vs 2.9 ± 3.5, p<0.01)
 (12.7 ± 11.3 vs 7.7 ± 8.9,
 p<0.01) (23.8 ± 20.0 vs 10.6 ± 14.7, p<0.001)
 가 . PDF
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 3 cpm 가
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 3 cpm power
 ratio 가
 3 cpm
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