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가
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:
20 12
500 mg(3 mg/Kg) 100 ml
15
15
3
15
1 , 2 ,
3 , 4
가
150 ml 18.5 , 600
ml 25.8
가 15
3.3 , 2.4 , 가
:
:
,
,

oscopy 가 , enter - (gastric antrum)
가 (4 - 6). metoclopramide
,
(1, 2). 가 (7, 8). metoclopramide
가 , Ha (3)
, Ha (3)
(erythromycin)

¹ 가
² 가

(overhead radiography)

3

1998 1 7

20

12 , 32 17:15

9-70 (, 40)

12

500 mg, 3 mg/kg

(Erythromycin Lactobionate, Abbott

Laboratories, North Chicago, IL, U.S.A.) 10 ml

100 ml 15

70%w/v 150 ml

4 0.5%

(Methylcellulose, Sigma Chemical CO., St. Louis, MO, U.S.A.)

600 ml 15

5 (spot radiogra-

phy) , 30 15 , 1

30 , 3 1

15

3

가

15

1 ,
3 ,

2 ,

4

가

1/2



Fig. 1. Image obtained 15 minutes after administration of barium meal in a 36-year-old man from EM-injection group. The barium column reaches the terminal ileum and the bowel double contrast is excellent and the small bowel fold patterns are well demonstrated.



Fig. 2. Image at 30-minutes in a 30-year-old woman from EM-injection group. The small bowel fold patterns and bowel double contrast are demonstrated in less than half of ileal loop. We graded this case as good.

가 Excellent 4 (Fig. 1),
 1/2
 Good 3 (Fig. 2),
 Fair 2 (Fig. 3),
 Poor 2
 1 (Fig. 4) 3
 Wilcoxon rank sum test
 18.5 , 600ml 150 ml
 25.8
 (p<0.05), 150 ml
 7 (35%) 5 , 600 ml
 14 (70%) 30
 (Table 1).
 가 (Table 2),
 15
 3.3 , 2.4 ,
 가 (p<0.05) (Table 3).

(p<0.05),

Table 1. Gastric Emptying Time (GET)

GET (min)	150mL Barium suspension	600mL Methylcellulose
	EM group (n = 20)	Control group (n = 12)
0 - 5	7 (35%)	0 (0%)
5 - 10	2 (10%)	0 (0%)
10 - 15	3 (15%)	7 (35%)
15 - 30	6 (30%)	0 (0%)
30 - 45	2 (10%)	3 (15%)
45 - 60	0 (0%)	1 (15%)
60 -	0 (0%)	5 (42%)
Mean GET	18.5 min	25.8 min

Table 2. Small Bowel Transit Time

Transit time (min)	EM group (n = 20)	Control group (n = 12)
0 - 15	3 (15%)	2 (17%)
15 - 30	5 (25%)	2 (17%)
30 - 45	5 (25%)	1 (8%)
45 - 60	1 (5%)	3 (25%)
60 - 90	2 (10%)	2 (17%)
90 -	4 (20%)	2 (17%)
Mean	64.5 min	66.3 min

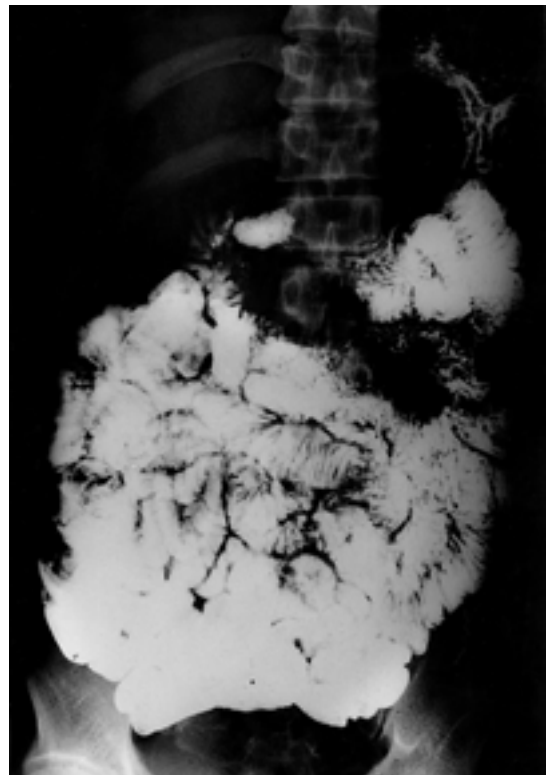
**Fig. 3.** Image in a 27-year-old woman. Some small bowel fold patterns are demonstrated in distal ileal loop, although poor transradiency.**Fig. 4.** Overhead radiograph of a 38-year-old man from control group. The small bowel loops shows poor transradiency, inadequate distension and bowel loop crowding. Therefore, all three readers graded this case as poor.

Table 3. Small Bowel Transit during Initial 15 Minutes

Point	EM group (n = 20)	Control group (n = 12)
1 (Proximal jejunum)	0 (0%)	2 (17%)
2 (Distal jejunum)	2 (10%)	5 (42%)
3 (Proximal ileum)	10 (50%)	3 (25%)
4 (Distal ileum)	8 (40%)	2 (17%)
Mean point	3.3	2.4

Table 4. Luminal Diameter and Image Quality

	Maximal luminal diameter (Mean)		Image quality (Mean)	
	EM group (n = 20)	Control group (n = 12)	EM group (n = 20)	Control group (n = 12)
Proximal jejunum	3.0 cm	2.6 cm	3.9	3.6
Distal jejunum & proximal ileum	2.5 cm	2.2 cm	3.7	3.1
Distal ileum	2.3 cm	2.0 cm	2.8	2.3

(*p*<0.05) (Table 4).

가 가

(3)

(14)

15

15
(Fig. 1).

가,

가

가 (2, 9 - 12).

(14), 5

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(200 - 500 mg, 3 mg/kg)

(5, 13 - 15),
vagus pathway (19).

가 (16, 17). Sarna (14)

500 mg

가

가

6

53

9

5

38

Annese (13) 200 mg

30

2

가

, 150

586

ml 35% 5 600

ml 70% 30

metoclopramide

(3, 18). Ha

Sarna

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The Effects of Erythromycin in Small-Bowel Follow-through¹

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Purpose: To evaluate the efficacy of erythromycin(EM), known to accelerate gastric emptying, in modified small-bowel follow-through(SBFT).

Materials and Methods: We evaluated 32 normal patients who underwent modified SBFT by oral administration of methylcellulose. In the EM injection group(n=20), 500 mg EM (3 mg/kg in pediatric patients) in 100 ml saline was infused intravenously over a 15-minute period prior to the administration of a barium meal, while in the control group(n=12), EM was not infused. Gastric emptying time(GET), small-bowel transit time(SBTT) for barium and methylcellulose, small-bowel transit(SBT) during the first 15 minutes, luminal diameter and quality of image were compared between the two groups. SBT was assigned 1, 2, 3, or 4 points, depending on the extent to which the barium head reached the proximal or distal jejunum, and the proximal or distal ileum during the initial 15-minute. Three radiologists reached a consensus as to image quality.

Results: Mean GET was significantly faster in the EM injection group (18.5 mins for 150 ml barium suspension and 25.8 mins for 600 ml methylcellulose). The SBT score during the initial 15 minutes was significantly higher in the EM injection group (3.3 points) than in the control group (2.4 points), but mean SBTT was not significantly different between the two groups. Luminal diameter and image quality were also higher in the EM injection group.

Conclusion: EM does not decrease SBTT but is highly effective for shortening gastric emptying time, helping to increase the range of fluoroscopic examination and improve image quality in modified small-bowel follow-through, especially in patients with delayed gastric emptying.

Index words : Intestines, diseases
Intestines, radiography

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