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Are You Ready to Transport Your Seriously Ill Patient?

Eui Chung Kim, M.D., Young Soon Cho, M.D., Young Hwan Choi, M.D., Hyun Soo Chung, M.D., In Cheol Park, M.D., Hahn Shick Lee, M.D.

Purpose: This study is designed to evaluate the current situation of interhospital transports of critical ill patients requiring emergency care.

Methods: Using a clinical prospective 162 interhospital transports of ill patients by ambulance were evaluated in 2 hospitals. Patients were divided into severe & mild to moderate group by modified-ESI. We evaluated the state of patients, vital sign, monitoring of patient's state, hospitalization or transportation. Data were collected by mean of comprehensive form filled by a physician at the receiving hospital.

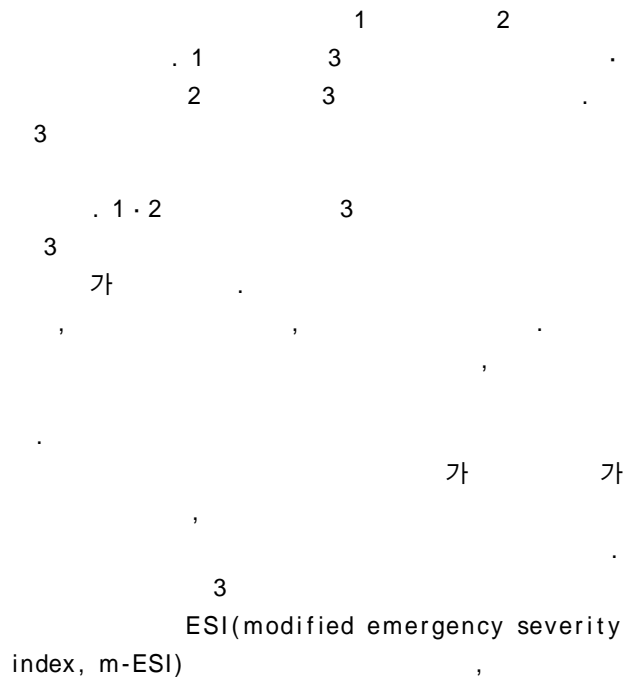
Results: The receiving hospital were notified prior to the transport in 57.4%. Pretransport information about the patients were adequate in 75% and no data in 9.9%. In 10.4% of the transports, the patients arrived at the receiving hospital in an agonized state. In 80.8% of the transports admitted and 7.4% of the patients were transfer to the other hospital.

Conclusion: It appears that there are no established guidelines for the emergency transport of critical ill patients in Korea.

Key Words: Patient transfer

Department of Emergency Medicine, Yonsei University

College of Medicine, Seoul, Korea



(Fig. 1).

2005 3 1 2005 5 31
 2005 7 31 2005 6 1

(Table 1).
 m-ESI 2, 3
 SPSS v11.5
 ANOVA test
 64 (39.5%), 36 (22.2%)
 가 61.7% . 45
 28 (62.2%)
 84.6±81.1
 96.6±95.7 , 80.0±74.7
 (9 ~
 6) 가 104 (64.2%), (6
 - 9) 가 58 (35.8%)
 (Table 2).
 가
 가 83 (51.2%) 가
 가 72 (44.4%) (Table 3).
 1~2 107 (66%) 가
 3 55
 (34%) . 46
 (28.5%)
 가 135 (83.3%) 가
 가 23 (14.2%), 119 3
 2005 3 1 2005 5 31
 10,747
 318
 2005 6 1 7 31
 7,130
 738
 180 180
 18 162 (76 ,
 86) . 90 ,
 72 m-ESI 2 45
 (27.8%) 52.0±20.4 가
 52.1±22.2 52.0±19.7 가 23 (14.2%), 119 3

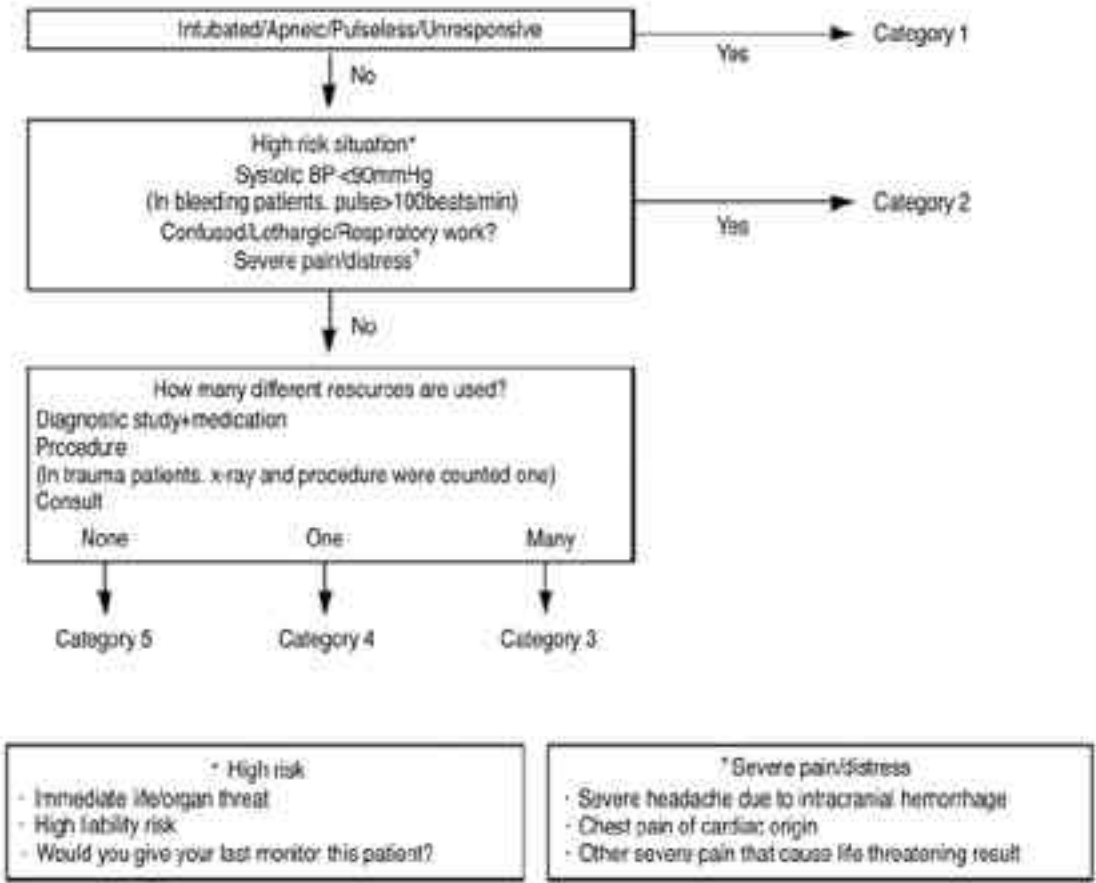


Fig. 1. Modified emergency severity index(m-ESI).

(Table 4). 가 121
 (75%) , 가 5 (3%) (24.4%) 25 (15.4%) 45 11
 16 (9.9%) (Table 가 가 17
 5). (10.4%) m-ESI가 2 가 15
 (33.3%) 131 . 63
 23.5% , 68
 가 가 12 , 3
 가 (1.7%), 16 (9.9%)
 가 3 (1.7%) .

Table 1. Baseline characteristics of study patients

	m-ESI 2	m-ESI 3	Total
Patients	45	117	162
Mean age(yr)	52.1 ± 22.2	52.0 ± 19.7	52.0 ± 20.4
Male : Female	24:21	66:51	90:72
Vital sign monitoring during transport	11 (24.4%)	14 (12.0%)	25 (15.4%)
Expire patients in ED	3 (6.7%)	0	3 (6.7%)
Previous contact to Doctor	33 (73.3%)	64 (54.7%)	97 (59.9%)

m-ESI: modified emergency severity index, ED: emergency department

Table 2. Time assigned transport and location of referring hospital

	m-ESI 2	m-ESI 3	Total	
Referring hospital	Primary & secondary	25 (55.6%)	82 (70.1%)	107 (56.0%)
	Tertiary	20 (44.4%)	35 (29.9%)	55 (34.0%)
Arrival time	Day*	29	75	104
	Night†	16	42	58
Location of referring hospital	Seoul	14	50	64
	Gyeonggi-do	14	22	36
	Gangwon-do	4	4	8
	Others	17	41	52
Mean time (min)	96.6 ± 95.7	80.0 ± 74.7	84.6 ± 81.1	
Total	45	117	162	

*: 09:00 AM to 06:00 PM

†: 06:00 PM to 09:00 AM

Table 3. The Reason of transport

	m-ESI 2	m-ESI 3	Total
Lack of hospital room	0	2	2
For specialist	0	1	1
For proper management and operation	24	59	83
Hospital near patient 's house	1	2	3
Patient and family 's want	20	52	72
Other reason	0	1	1
Total	45	117	162

m-ESI: modified emergency severity index

2 1
117 30 4
p 0.012
(Table 7)(Fig. 2).
93 (57.4%),
69 (42.6%) m-ESI가 2
가 33 (73.3%) m-ESI 3
60 (51.3%)
310±419 m-ESI가 2 3 m-ESI
217±235 , m-ESI가 3 2 , 3
344±470 (Table 6).
120 가 .

Table 4. Composition and methods of the transports

		m-ESI 2	m-ESI 3	Total
Medical personal	Doctor	16	17	33 (20.4%)
	Nurse	5	4	9 (5.6%)
	EMS nurse	1	3	4 (2.5%)
Non-medical personal	EMS team	18	53	71 (43.8)
	Employee of hospital	0	7	7 (4.3%)
No composition		5	33	38 (23.5%)
Total		45	117	162

m-ESI: modified emergency severity index, EMS: emergency medical service

Table 5. Information of patients from referring hospital data

	m-ESI 2	m-ESI 3	Total
Letter of request of patient*	37	104	141 (74.7%)
The other data †	1	4	5 (20.4%)
None	7	9	16 (9.9%)
Total	45	117	162

m-ESI: modified emergency severity index

*: Letter of request of patient with of without other data

†: labaratory data or imaging data without data

Table 6. Disposition in ED

		m-ESI 2	m-ESI 3	Total
Administration	Intensive care unit	33 (3*)	30 (3*)	63 (6*)
	General ward	5	63	68
Discharge at ED		1	15	16
Expire in ED		3	0	3
Refer to another Hospital		3	9	12
Unstable status after transport†		15		
CPR in ED		3 (6.7%)	0	3 (1.9%)

m-ESI: modified emergency severity index, ED: emergency department, CPR: cardiopulmonary resuscitation

* : Number of Patients admitted in ICU after operation

† : Shock status, severe respiratory distress, worsening of mental status

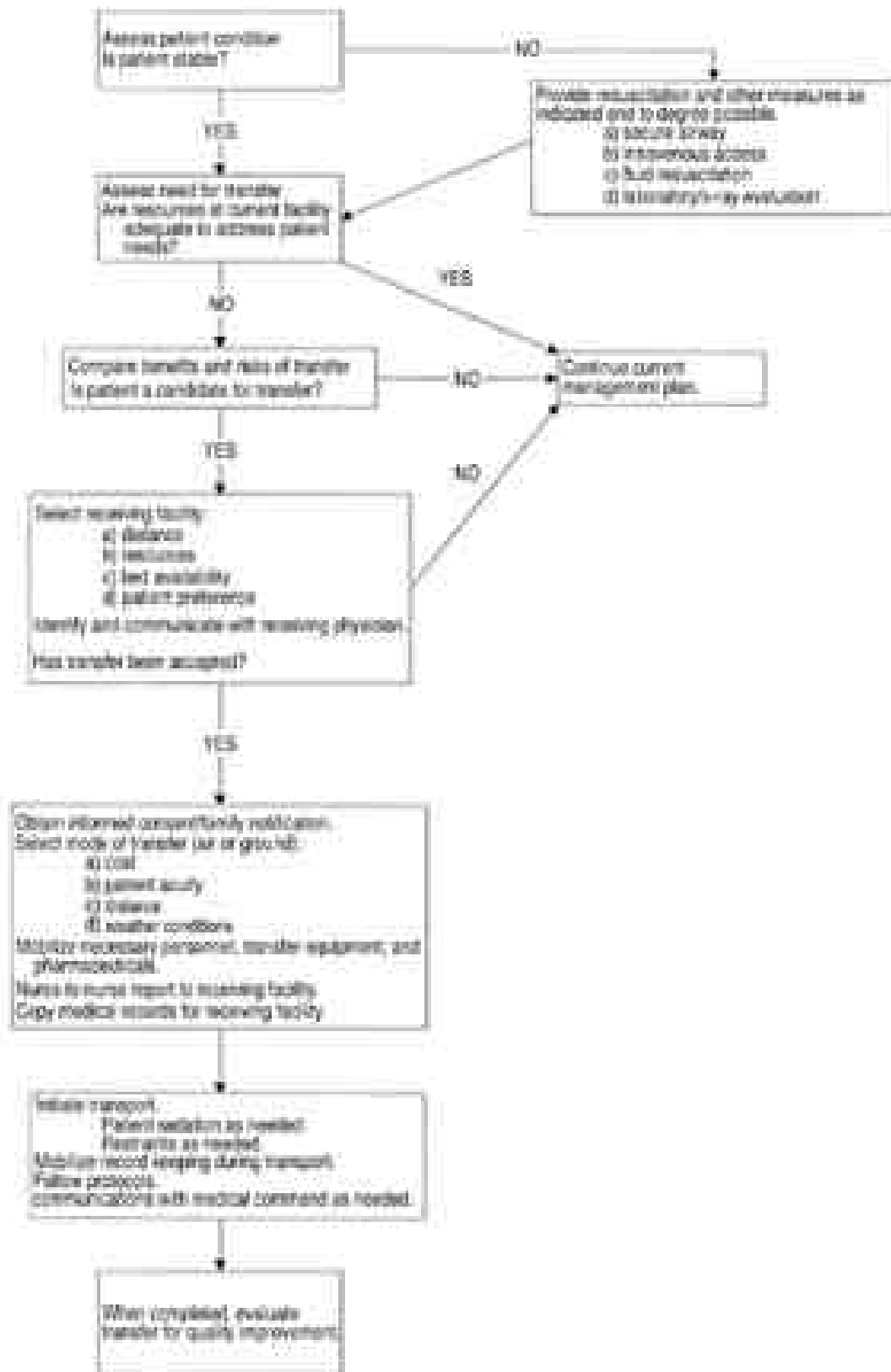


Fig. 3. Interfacility transfer algorithm.

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Craig⁵⁾

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Warren⁶⁾
(Fig. 3).

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