CLINICAL OUTCOME OF ENDOTRACHEAL INTUBATION IN NON-TRAUMA PATIENTS IN THE EMERGENCY DEPARTMENT OF ALEXANDRIA MAIN UNIVERSITY HOSPITAL

Ashraf Arafat Abdelhalim[1], Tamer Nabil Habib[2], Mina Montasser Guirguis Baskharon[3], Luther Martin Luther[3]

Department of Anesthesia and Surgical Intensive Care [1], Critical Care[2], Emergency Medicine[3], Faculty of Medicine, Alexandria University

Introduction

In recent years, advancements in medicine and medical technology have strived to decrease the morbidity and mortality of patients worldwide. Guidelines have been formulated to assist physicians in decision making however, endotracheal intubation (ETI) still carries significant health risks not only to the patient but also to the medical personnel.

ETI is linked to various unwarranted outcomes ranging from mild to moderate to severe. These outcomes bring forth further burden on healthcare resources as the duration of hospital stay increases. To our knowledge, there is a limited number of studies conducted in the Middle East and African countries to identify the magnitude of the problem.

Aim of the work

This study aimed at determining the outcomes (complications) of ETI in non-traumatic patients presenting to the emergency medicine department at Alexandria Main University Hospital.

Patients and Methods

a prospective cohort study was done on a total of 100 subjects who were above 18 years of age and had successful intubation in the emergency department.

All subjects' data were collected from July 2022 to December 2022 and followed up until discharge from the intensive care unit (ICU) or their mortality.

Data were fed to the computer and analyzed using IBM SPSS software

Results

Table 1: Comparison between comorbidity and outcome

Comorbidity	All patients	Outcome		p-value
		Survival to Discharge (n=22)	Death (n=78)	
Hypertension				
• No	46 (46.00%)	8 (17.39%)	38 (82.61%)	0.152
• Yes	54 (54.00%)	14 (25.93%)	40 (74.07%)	
Diabetes mellitus				
• No	65 (65.00%)	15 (23.08%)	50 (76.92%)	0.361
• Yes	35 (35.00%)	7 (20.00%)	28 (80.00%)	
Renal impairment				
• No	77 (77.00%)	15 (19.48%)	62 (80.52%)	<0.001*
• Yes	23 (23.00%)	7 (30.43%)	16 (69.57%)	
Chronic liver disease				
• No	81 (81.00%)	21 (25.93%)	60 (74.07%)	0.025*
• Yes	19 (19.00%)	1 (5.26%)	18 (94.74%)	
Malignancy				
• No	84 (84.00%)	18 (21.43%)	66 (78.57%)	0.375
• Yes	16 (16.00%)	4 (25.00%)	12 (75.00%)	
Ischemic heart disease				
• No	87 (87.00%)	19 (21.84%)	68 (78.16%)	0.459
• Yes	13 (13.00%)	3 (23.08%)	10 (76.92%)	
Stroke				
• No	91 (91.00%)	22 (24.18%)	69 (75.82%)	0.050
• Yes	9 (9.00%)	0 (00.00%)	9 (100.00%)	
Respiratory disease (COPD & Asthma)				
• No	92 (92.00%)	22 (23.91%)	70 (76.09%)	0.500
• Yes	8 (8.00%)	0 (0.00%)	8 (100.00%)	
Others				
• No	90 (90.00%)	20 (22.22%)	70 (77.78%)	0.436
• Yes	10 (10.00%)	2 (20.00%)	8 (80.00%)	

Table 2: Relation between the number of attempts and physician experience level

Number of attempts	Physician experience level	n	%	p-value
One (1) attempt		79	79.00	
	Senior residents	28/39	71.79	0.036*
	Mid-senior residents	51/59	86.44	
	Junior residents	0/2	0.00	
Two (2) attempts		13	13.00	
	Senior residents	6/11	54.55	0.364
	Mid-senior residents	5/8	62.50	
	Junior residents	2/2	100.00	
>2 attempts		8	8.00	
	Senior residents	5/5	100.00	N/A
	Mid-senior residents	3/3	100.00	
	Junior residents	0	N/A	

Conclusion

In a stressful emergency department setting, endotracheal intubation in severely ill patients was associated with a markedly high risk of complications despite the first attempt of successful intubation or type of laryngoscope used. The study also reveals that intubated patients with renal impairment or chronic liver disease were at a higher risk for mortality during ICU stay.