Mortality of abdominal injuries in trauma patients at Al-Gamhoria Teaching Hospital

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Abstract

The third most commonly injured region of abdomen is trauma, with surgery about 25% of civilian cases and more frequent in urban settings.
The main objectives to study the distribution of abdominal trauma patients characteristics, surgical intervention and mortality.
This is retrospective descriptive study for all patients undergoing a laparotomy at Al-Gamhoria Teaching Hospital, of whom 100 were presented abdominal trauma for in period from 2012 to 2015.
Abdominal trauma were common among patients < 18 years, male with gunshot and prolong elapsed time between trauma and operation > 90 minutes.
Complaining of abdominal pain with blood collection during operation were the most common findings.

Key words: trauma, mortality, elapsed time, operation finding

Introduction

Worldwide, trauma is a heavy burden to healthcare; an estimated five million deaths are attributed to injuries each year with about 70 % related to unintentional injuries and 30 % related to intentional injuries.[6]

The abdomen is the third most commonly injured region, with surgery required in about 25% of civilian cases ,[3] while blunt abdominal injuries predominate in rural areas.[7]

Tuma is the study of medical problems associated with physical injury is truma definition. The injury is the adverse effect of physical force upon a person.[9]Traumas represent a serious public health problem and are among the first reasons of mortality and disability in developed countries, with significant human, economic and social costs.[4]

Abdominal trauma is classified as either blunt or penetrating. Trauma diagnosed easily and reliably is abdominal trauma, whereas blunt abdominal trauma is often missed because clinical signs are less obvious and more frequent in urban settings. Penetrating type trauma is subdivided into stab and gunshot wounds, which require different methods of treatment.[7]

The term “golden hour” is a well-known part of the location of trauma surgeons and emergency medical service (EMS) providers who take care of injured patients on a daily basis. The underlying tenet is that an injured patient has 60 minutes from the time of injury to receive definitive care, after which morbidity and mortality increase significantly.[5]

Objectives:

1. Distribution of abdominal trauma and it's relation to sociodemographic characteristics, complain of patients and trauma type and mortality .
2. Identifying of patients by surgical intervention and mortality.
3. Distribution of patient by time elapsed between door and operation in relation to mortality.

Methods:

This is a retrospective descriptive study of all patients undergoing a laparotomy at Al-Gamhoria Teaching Hospital. All patients who presented with abdominal trauma from 2012 to 2015 were reviewed, using patients' files, ultra-sonographic findings, operating theatre notes, and discharge situation.

Statistical analysis was done by SPSS version 23 , was used to presented qualitative variable by frequency while quantitative variable by mean and stander deviation for.

Used independent sample T test and Chi square to identify the association between variables.

Result and Discussion:

There was a striking association between abdominal trauma and male patients; Blunt trauma was the most common type of abdominal injury.[9]

Table 1:Distribution of patients characteristic and mortality

Mortality		Yes		No		Total		P value
		No	%	No	%	No	%	
Age group	< 18	2	7.7	24	92.3	26	35.1	0.61
	18-24	0	0	11	100	11	14.9	
	25-49	1	3.7	26	96.3	27	36.5	
	>= 50	0	0	10	100	10	13.5	
Sex	Female	1	7.7	12	92.3	13	17.6	0.46
	Male	2	3.3	59	96.7	61	82.4	
Trauma type	Acute abdomen	0	0	2	100	2	2.7	0.36
	Gun shot	2	13.3	13	86.7	15	20.3	
	Blunt trauma	0	0	19	100	19	25.7	
	Stab wound	0	0	12	100	12	16.2	
	Falling down	1	6.7	14	93.3	15	20.3	
	Car accident	0	0	11	100	11	14.7	
Complain	Abd pain	2	3.5	55	96.5	58	78.4	0.88
	Abd distension	0	0	3	100	3	4.1	
	Both	1	7.7	12	92.3	13	17.6	
Total		3	4.1	71	95.9	74	100	

Timely management for blood loss is consider very important .It is the time dependent and diagnostic procedures that must be quick, and accurate and decision-making must be prompt and correct. For management of the patient with blunt abdominal trauma is ascertain whether or not a laparotomy is needed.[4]

The mean age for patients in this study period were 26.54 + 17.7 years ranging from (2- 84) with most affected age group to trauma were 25-49 and < 18 (36.5% , 35.1%)

There was a striking association between abdominal trauma and male patients, [7] in this study reported 61/13 male to female (17.6% vs 82.4%) with height in male than female .

Abdominal pain was the most common complain 78.4% follow of pain and distension with 17.6% and only 4.1% complain abdominal distension.

The most common trauma was blunt with 25.7% of which ,[2] Surgical approach for 91.9% with only 6 patients with 8.1% and conservative therapy.

For the patients admitted to hospital the mean time between door and operation room is 20.49+ 26.72 (0 – 168).

Time to operation for trauma cases may be used as a performance indicator of the trauma system in the hospital. A time limit may be set for both blunt and penetrating trauma patients who need operative intervention in which there is evidence shown by the American College of Surgeons that laparotomy delay of more than two hours will have adverse effects on the trauma care.[8]
In this study, Table 3 all patients who take more than 90 minutes between trauma and operation die with have 5.9%.

Blunt trauma in 14.8 % die in cardio 2019,[9] while in this study it were 13.3% due to gun shot.

Table 2:Distribution of patients by surgical intervention and mortality :

Finding	Yes		No		Total	
	No	%	No	%	No	%
Blood collection	2	7.7	24	92.3	26	35.1
Stomach penetration	0	0	3	100	3	4.1
Small intestine	0	0	6	100	6	8.1
Large intestine	0	0	6	100	6	8.1
Splenectomy	0	0	22	100	22	29.7
Peritonitis and pus	1	100	0	0	1	1.4
Cholecystectomy	0	0	2	100	2	2.7
Ovarian cystectomy	0	0	1	100	1	1.4
Liver laceration Liver hematoma	0	0	3	100	3	4.1
Splenic ,liver and intestine tears	0	0	2	100	2	2.7
Mesenteric ligation	0	0	1	100	1	1.4
Liver hematoma	0	0	1	100	1	1.4
Percentage calculated by raw , P = 0.005						

Table3 : Distribution of patient by time elapsed between door and operation in relation to mortality

Elapsed Time by minutes	Yes		No		Total	
	No	%	No	%	No	%
< 90	0	0	23	100	23	31.1
> 90	3	5.9	48	94.1	51	69.9
Total	3	4.1	71	95.9	74	100
Percentage calculated by raw. P= 0.235						

Conclusion:

Most of our population study were male patients with high risk of mortality in male with gunshot and falling down who complain abdominal pain and take more than 90 minutes from trauma to operation.

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الوفيات بسبب الجروح البطنية للمرضى المصابين في مستشفى الجمهورية التعليمي

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الملخص

الإصابات في منطقة البطن تعتبر ثالث الجراح الأكثر شيوعًا، وتحتاج إلى 25% من الحالات المدنية وأكثر شيوعًا في المدن.
الهدف الرئيس لهذه الدراسة معرفة توزيع الحالات المصابة بجروح بطنية وخصائصهم والتدخلات الجراحية والوفيات.
هذه دراسة مرجعية وصفية لكل المرضى الذين خضعوا للجراحة في مستشفى الجمهورية التعليمي، وكانوا يعانون من إصابات بالبطن. أكثر الحالات كانت بأعمار أقل من 18 سنة، طلقات نارية وأخذت أكثر من 90 دقيقة كوقت ما بين الإصابة والوصول لغرفة العمليات.
وكان ألم البطن كشكوى، ووجود تجمع دموي في أثناء الجراحة الأكثر شيوعًا بين الحالات.

الكلمات المفتاحية: إصابة، وفيات، الوقت المستغرق، نتائج العملية.