Recent Trends in Management of Blunt Abdominal Trauma

Essay
Submitted for Partial Fulfillment of Master Degree in General Surgery

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بسم الله الرحمن الرحيم

((وقل رب زدني علما))

Dedication

To the soul of ***Professor dr./ MOUSTAFA ADLY,,,***

To my dear father and mother,,,,,

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Acknowledgement

First of all, I would like to raise my deepest thanks to Allah, the most kind and the most merciful, for helping me to accomplish this work.

I would like to express my deepest thanks and supreme gratitude to **Professor Dr. / MOUSTAFA ADLY (GOD bless his soul)**Professor of General Surgery Faculty of Medicine, Ain Shams University for his close supervision, valuable instructions, generous flow of support and constructive remarks throughout the preparation of this essay.

Also, I am very grateful to**Doctor General / YOUSSEF ABDEL MESSIH**Consultant Surgeon; Head of General Surgery Dept.El Galaa Family Hospital (A.F) for his kind assistance, helpful advices and great supports during the progress of this work.

And,,,I would like to express my sincere and deep gratitude to my **Prof. Dr./MOHAMED AAMER** Assistant prof. of General Surgery; Faculty of Medicine ;Ain Shams University, for his valuable help, constructive criticism and keen interest in the progress and accomplishment of this work.

Introduction

Trauma is the leading cause of death in people under age of ٤٥ years, and ١٠٪ of deaths result from abdominal injury which may be blunt in ٨٤٪ of cases or penetrating in ١٦٪.Early detection of these life threatening injuries is the most important factor in decreasing incidence of death due to intra-abdominal trauma. (**Soynucu et al.,٢٠٠٧).**

Blunt abdominal injury is caused by one or combination of the following forces:-Direct impact, acceleration deceleration injuries, rotational and shear forces. All these mechanisms depend on the mode of energy transfer. Penetrating abdominal trauma is commonly caused by gun shots or penetration of abdominal wall by sharp objects. (**Truneky**,١٩٩٢**).**

The most commonly injured organs are: spleen, liver, kidneys, small bowel, colorectum, diaphragm, urinary bladder and pancreas. (**Udeani et al., ٢٠٠٨).**

Assessment of the abdomen for possible intra-abdominal injury due to trauma is a common clinical challenge for surgeons and emergency physicians. (**McKenney,et al**,١٩٩٦**).**

A variety of tests are used to evaluate abdominal injury include: clinical examination, abdominal ultrasonography, computed tomography and diagnostic peritoneal lavage. (**Miller et al., ٢٠٠٣).**

Laparoscopy has been applied safely and effectively as a screening tool in stable patients with blunt abdominal trauma. (**Macho et al., ٢٠٠٣).**

Failure to recognize occult abdominal hemorrhage and to successfully control bleeding from intra-abdominal organs leads to significant morbidity and such injuries account for ١٠٪ of traumatic deaths. (**Hoyt et al.,٢٠٠٢)**

Traditional philosophy regarding blunt abdominal trauma has adhered to the idea that visceral injuries are best treated by surgical management in the past ٢٠ years that approximately ٢٥٪ of all trauma victims require abdominal exploration; however there has been a re-evaluation in thought with progressively increasing use of selective non operative management. (**Shapiro et al**., ٢٠٠١**).**

AIM OF THE WORK

This work aims to discuss the recent trends in the management of abdominal trauma in order to improve the prognosis and decrease morbidity and mortality.

Chapter (ٰ)

Mechanisms & patterns of blunt abdominal trauma

Epidemiology of BAT

Trauma is the leading cause of death in people under the age of ٤٥ years, and ١٠٪ of these deaths result from abdominal injury which may be blunt or penetrating. Early detection of these life-threatening injuries is the most important factor in decreasing the incidence of death due to intra-abdominal trauma. Blunt abdominal trauma is mostly due to road traffic accidents, falls, accidents at work,. Or sporting misadventures. **(Schweizer et al., ٢٠٠١)**.

Table (١) :Types of injuries

Type of Injury	Frequency	Percent
Penetrating	645	35.7%
Blast	425	23.5%
Blunt	410	22.7%
Unknown	84	4.6%
Crush	63	3.5%
Mechanical	49	2.7%
Thermal	48	2.7%
Undetermined	21	1.2%
Other	16	0.9%
Chemical agent	10	0.6%
Bites/Stings	8	0.4%
Degloving	8	0.4%
Electrical	7	0.4%
Heat Injury	7	0.4%
Inhalation	3	0.2%
Multiple Penetration System	3	0.2%
Total	**1807**	**100%**

(Gonzelez et al., ٢٠٠٠)

Abdominal injury is a contributing factor in ٢٠٪ of trauma deaths, either early from exsanguinating hemorrhage or late from bowel injury, subsequent sepsis or multiple organ failure. **(Bickell et al., ١٩٩٤).**

Blunt trauma to abdomen can cause severe injury especially to solid abdominal organs. (**Hann et al., ٢٠٠٥).**

The diagnosis of hollow viscus injury remains a challenge in abdominal trauma patients.**(Fakhry et al., ٢٠٠٣).**

The male to female ratio is ٤:٦ according to national and international data. **(Salomone, et al., ٢٠٠٩)**

Assessment of the abdomen for possible intra-abdominal injury due to trauma is a common clinical challenge for surgeons and emergency medicine physicians. Physical findings may be unreliable because of altered patient consciousness, neurological deficit associated with head injury or spinal injury, medication, or other associated injuries (**McKenney et al., ١٩٩٦).**

Haemodynamically unstable patient need diagnostic peritoneal lavage (DPL) and Ultrasound (US) to determine haemoperitoneum. While in stable patients CT could be added **(Barlon et al., ١٩٩٦).**

The diagnostic peritoneal lavage proved to be a very sensitive test for intra-abdominal bleeding **(*Yeo*, ٢٠٠٤).**