Delayed Laparoscopic Exploration Versus Repeated Imaging

In Stable Blunt Abdominal Trauma Patients

Thesis

For Fulfillment Of Master Degree

In General Surgery

By

Athar Samir Mahmoud El Ward

M.B.B.ch

Cairo University

Supervised By

Prof.Dr./ Salah Ali Shaheen

Professor Of General Surgery

Faculty Of medicine

Cairo University

Prof.Dr./Ibrahim Galal Khalifa

Professor Of General Surgery

Faculty Of medicine

Cairo University

Prof.Dr./Hisham Salah El Deen Amer

Professor Of General Surgery

Faculty Of medicine

Cairo University

2008

بسم الله الرحمن الرحيم

Acknowledgement

First and foremost, thanks to GOD, who helped me to achieve this work.

I wish to express my deepest gratitude to Prof. Dr. Salah Ali Shaheen Prof, of General Surgery Faculty of Medicine Cairo University to whom I am grateful for his generous cooperation, very close supervision, and valuable advices.

I am greatly thankful to Prof. Dr. Ibrahim Galal Khalifa Prof of General Surgery Faculty of Medicine Cairo University, for his kind observation and precious guidance.

I am greatly indebted to Dr. Hisham Salah El Deen Amer Prof of General Surgery Faculty of Medicine Cairo University, for his generous help and support through the work.

I also want to thank Dr. Nader Shaaban Zaki Lecturer of General Surgery Faculty of Medicine Cairo University, for the effort he gave in this work .

I would like to thank all who helped me in this work. Last but not least, thanks for my family for the continuous encouragement and emotional support

ABSTRACT

Background: Blunt trauma is by far the most common mechanism of injury. Possible investigative modalities include; Focused Abdominal Sonography For Trauma (FAST), computed tomography (CT) scanning and laparoscopy. There is an increasing volume of data supporting the non-operative management of patients with solid organ injury from blunt abdominal injury. Aim of the work: Comparative study of conservative versus delayed laparoscopic exploration for blunt abdominal trauma and assess the value of preoperative investigation in decision-making. *Patients and methods:* This study included 28 vitally stable patient with the clinical diagnosis of blunt abdominal trauma, admitted from February 2009 to February 2010. *Conclusion:* Laparoscopy in stable blunt abdominal trauma is important in making accurate diagnosis and proper management .

Key Words

blunt, abdominal, trauma, conservative, surgical, computed tomography scan (CT), delayed laparoscopic exploration (DLE), focused abdominal sonography for trauma (FAST)

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DLE	**Delayed laparoscopic exploration**
DPL	Diagnostic peritoneal lavage
FAST	Focused abdominal sonography for trauma
CT	Computed tomography
DL	Diagnostic laparoscopy
AIS	Abbreviated injury scale
RTA	Road traffic accidents
AAST	American association for the surgery of trauma
NS	Not specified
RBC	Red blood cells
WBC	White blood cells
MOI	Mechanism of injury

Introduction

&

Aim of Work

Introduction

Laparoscopy has become commonplace in general surgical practice, and as technique and instrumentation continue to improve, increasingly complex procedures are being undertaken with this minimally invasive method. The goal of laparoscopic surgery is to provide equal or superior visualization compared with open procedures but with less patient morbidity, postoperative discomfort, and recovery time. This goal has clearly been met with a number of laparoscopic procedures, including cholecystectomy, gastroesophageal reflux procedures, and diagnostic laparoscopy. Although the benefits of laparoscopy are appealing in the trauma population, the complexity and potential hemodynamic instability associated with intra-abdominal injury usually preclude the use of this modality. Carefully selected trauma patients may benefit from this emerging technology .Trauma was estimated to have caused 10% of all deaths occurring worldwide ***(Gonzalez et al, 2001).***

Truly, it may be described as an epidemic. The details of this epidemic differ according to location. The causes of traumatic death in the developed world are different to those in the developing world.

Nonetheless, trauma remains the 3rd largest cause of death in all regions of the world, regardless of these differences ***(Tinkoff et al, 1996).***

The mechanism of trauma can be divided into blunt, penetrating, thermal and blast injuries. Blunt trauma is by far the most common mechanism of injury and can be further divided either by the forces produced, or the type of incident. Examples of blunt abdominal trauma include: falls, automobile and motorcycle accidents, pedestrians struck by automobiles, blunt assaults and most sport-related accidents ***(Bond et al, 1997).***

Blunt trauma occurs when two objects come into contact with one another and one-object changes its speed more quickly than the other object. The energy imparted is distributed over a wider surface area

compared with penetrating mechanisms, and the forces involved create

both shear and tensile strain, creating a temporary cavity. These cavities are created when the surface and structural tissues of the body are stretched but the overall shape of the body is maintained ***(Rowe, 1996).***

Numerous modalities have been used to aid in the diagnosis of blunt abdominal trauma, and each has its proponents and critics. Possible investigative modalities include; Focused Abdominal Sonography For Trauma (FAST) , computed tomography (CT) scanning and laparoscopy ***(Morris et al, 1996).***

Laparoscopic evaluation of the abdominal cavity has been established as sensitive and specific in the trauma setting (sensitivity, 94%; specificity, 98%) . (***Renz BM, Feliciano DV 1996)***.

Whereas, inspection of the abdominal cavity and solid viscera is relatively easy to perform, complete examination of the intestine presents a

greater challenge , with a 9% to 18% missed injury rate per patient ***(Mazuski JE et al 1997)***

A collected review of nearly 5000 patients (whose focused abdominal sonography for trauma was performed by a surgeon rather than a radiologist) demonstrated high sensitivity, specificity and accuracy for haemoperitoneum and visceral injury ***(Rozycki et al, 1996),***

The computed tomography scanner is strictly off-limits to unstable trauma patients. However, in the patient that is cardiovascularly normal, computed tomography is the investigation of choice in many institutions ***(Bickel et al, 1994).***

The Key issue in the choice of investigation for blunt abdominal trauma is the cardiovascular stability of the patient. Patients who are unstable with unequivocal abdominal signs require a laparotomy, and not investigation or imaging. The dilemma arises in multisystem injury, where the abdomen is only one of the potential sources for the cardiovascular