

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ



شبكة المعلومات الجامعية
التوثيق الالكتروني والميكروفيلم



شبكة المعلومات الجامعية

جامعة عين شمس

التوثيق الالكتروني والميكروفيلم

قسم

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها
علي هذه الأفلام قد أعدت دون أية تغييرات



يجب أن

تحفظ هذه الأفلام بعيدا عن الغبار

في درجة حرارة من ١٥-٢٥ مئوية ورطوبة نسبية من ٢٠-٤٠%

To be Kept away from Dust in Dry Cool place of
15-25- c and relative humidity 20-40%



بعض الوثائق الأصلية تالفة

بالرسالة صفحات
لم ترد بالأصل

Omentoplasty for treatment of splenic trauma.

A Thesis submitted for partial fulfillment of
the requirement of the master degree in general surgery.

By

Ayman Mostafa Ahmed

M.B.B.ch.

Supervisors

Prof. Soliman H. El-Kamash

Prof. and Head of Surgery department
Faculty of Medicine
Suez Canal University

Prof. Mamdouh M. El-Mezaien

Prof. of Surgery
Faculty of Medicine
Suez Canal University

Prof. Kamal B. El-Haday

Prof. of surgery
Faculty of Medicine
Suez Canal University

→ MC
Up

Faculty of Medicine
Suez Canal University
2001

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

وَعَلَّمَكَ مَا لَمْ تَكُن تَعْلَمُ وَكَانَ فَضْلُ اللَّهِ عَلَيْكَ عَظِيمًا

النساء (١١٣)

ACKNOWLEDGEMENTS

First and for most, thanks to Allah, the most beneficent and merciful.

I would like to express my deepest gratitude to **Prof. Soliman H. El-Kammash** , Professor and head of Surgery department, Suez Canal University, for his continuous guidance and encouragement throughout this work. It was an honor to work under his supervision.

I am deeply indebted to **Prof. Mamdouh M. El- Mezaïen**, Professor of Surgery, Suez Canal University, for his constant support and guidance during preparation of this thesis. Without his kind support, this work would not have come to light.

I wish to express my thanks and sincere gratitude to **Prof. Kamal B. El-Hadary**, professor of Surgery, Suez Canal University, for his cardinal help and guidance that enabled me to finish this work.

FINALLY, I WOULD LIKE TO THANK ALL MY PROFESSORS & COLLEAGUES IN THE SURGICAL DEPARTMENT, SUEZ CANAL UNIVERSITY, FOR THEIR CONTINUOUS ENCOURAGEMENT AND HELP.

TABLE OF CONTENT

INTRODUCTION & RATIONALE	1
AIM OF THE WORK	3
RESEARCH QUESTION	3
EMBRYOLOGY	4
GROSS ANATOMY OF THE SPLEEN	5
<i>General anatomy:</i>	5
<i>Surface anatomy:</i>	5
<i>Relations of the spleen:</i>	6
<i>Blood supply of the spleen:</i>	6
<i>Lymphatic Drainage:</i>	7
<i>Nerve Supply:</i>	8
<i>Accessory & ectopic spleen:</i>	8
MICROSCOPIC ANATOMY OF THE SPLEEN	9
<i>Splenic circulation:</i>	9
FUNCTIONS OF THE SPLEEN	11
HEMATOLOGICAL FUNCTIONS OF THE SPLEEN :	11
<i>Phagocytosis:</i>	11
<i>Hematopoiesis:</i>	11
<i>Red cell maturation:</i>	12
<i>Iron Metabolism:</i>	12
<i>Reservoir functions:</i>	12
IMMUNOLOGICAL FUNCTION OF THE SPLEEN:	13
POST – SPLENECTOMY CHANGES	15
HEMATOLOGIC CHANGES:	15
IMMUNOLOGIC CHANGES:.....	15
OVERWHELMING POST SPLENECTOMY SEPSIS:	15
RUPTURE OF THE SPLEEN	17
ETIOLOGY:	17
PATHOLOGY:	18
CLINICAL MANIFESTATIONS:.....	20
INVESTIGATIONS AND DIAGNOSTIC PROCEDURES DONE IN CASES SUSPECTED WITH SPLENIC INJURY	21
MANAGEMENT OF SPLENIC TRAUMA	25
INITIAL MANAGEMENT OF SPLENIC INJURY	25
NON OPERATIVE MANAGEMENT OF SPLENIC INJURY	27
<i>Non operative management of splenic injury in adults:</i>	27

<i>Non operative management of splenic injury in children:</i>	27
<i>Operative management of splenic injury:</i>	28
OPERATIONS FOR SPLENIC SALVAGE	30
<i>Hemostatic agents:</i>	30
<i>Splenic artery ligation:</i>	31
<i>Repair techniques (splenorrhaphy):</i>	32
OMENTOPLASTY FOR SPLENIC INJURY	34
PATIENTS AND METHODS	36
STUDY TYPE	36
STUDY LOCATION	36
INCLUSION CRITERIA	36
EXCLUSION CRITERIA	36
<i>Pre-Operative:</i>	36
<i>Operative :</i>	36
SAMPLE SIZE.....	37
METHODS	38
A). PRE. OPERATIVE: -	38
B). INTRA-OPERATIVE: -	38
SURGICAL TECHNIQUE.....	38
<i>Incision and immediate maneuvers</i>	38
<i>Splenic mobilization</i>	39
<i>Omentoplasty</i>	39
<i>Omentoplasty technique</i>	39
c) POST-OPERATIVE	40
RESULTS	41
DISCUSSION	51
SUMMARY AND CONCLUSION	57
REFERENCES	58
ARABIC SUMMARY	66

**INTRODUCTION
AND
RATIONALE**

INTRODUCTION & RATIONALE

In victims of blunt abdominal trauma the spleen is the most common organ damaged, it is the most likely source of serious injury and is associated with morbidity and mortality (Cathy, 1998).

Since the dawn of abdominal surgery, surgeons have practiced splenectomy for splenic trauma; secure the belief that the spleen is a disposable organ (Paterson, 1995). The modern era of splenic surgery for injury began in 1892 when Riegner reported a splenectomy in a 19-year old construction worker who has fallen from a height. This report set the stage for routine splenectomy, which was performed for all splenic injuries in the next two generations (Lucas, 1991).

The spleen is an organ of the defense system with important roles in filtering functions, phagocytosis and immunoglobulin production (Resende, 1998). Despite early reports by Pearce and by Morris and Bullock that splenectomy in animals caused impaired defenses against infection, little challenge to routine splenectomy was made until King and Schumacker in 1952 reported a syndrome of overwhelming post splenectomy infection (OPSI) (Lucas, 1991). The life long risk of overwhelming infection after splenectomy is well recognized. Although children are at greater risk, adults are clearly vulnerable. This is an incentive to safely preserve the spleen in splenic injury (Yaghoobia, 1997). Overwhelming post-splenectomy sepsis remain a problem despite the introduction of a vaccine and antimicrobial prophylaxis. Removal of the spleen increases the risk of death from overwhelming sepsis to approximately 50 times that in healthy persons (Vanderschot, 1993).

A gradual change in the management of splenic injuries has occurred to determine whether changes in management of splenic injury influenced outcomes during the past 30 years. Patients treated by splenorrhaphy and observation for splenic injury have markedly increased over the past 30 years without adverse outcome (Morell, 1995).

Splenic injuries were graded depending up on the extent of injury into several categories as show in the table (1) (Moore, 1989) .

Grade	Laceration	Haematoma
1	<1Cm deep	<10% surface area
2	1-3 Cm deep	10-15% surface area
3	> 3 Cm deep	>50%surface area or expanding
4	Multiple>25%	Ruptured
5	Completely shuttered	Devascularizing the entire spleen

Table(1). Classification of splenic injuries.

Splenorrhaphy is considered a safe procedure in traumatic splenic injury and should be attempted in all patients except when the spleen is shattered, or avulsed and in multiple concomitant injuries where splenectomy is advised. Splenorrhaphy is performed with catgut and omental patch re-enforcement in addition to topical hemostatic synthetic material (Gel foam) application (Mustafa,1995 andWayne, 1990).

In hemodynamically stable patient ,the injured spleen can sometimes be salvaged by more innovative techniques, among them, omentoplasty successfully controlled hemorrhage from the spleen (Livange, 1995).

**Aim of the work
and
Study Question**

AIM OF THE WORK

The present study aims to evaluate the use of omentoplasty for treatment of splenic trauma .

RESEARCH QUESTION

Is Omentoplasty efficient in controlling bleeding and preservation of the spleen in cases of splenic trauma?