

LIST OF TABLES

Table		Page
I	Origin of cystic artery	2
II	Origin of cystic artery in different ethnic groups	4
III	Comparison between different energy modalities	19
IV	Grades of inflammation in Calot's triangle	32
V	Distribution of the studied cases according to demographic data	35
VI	Distribution of the studied cases according to co morbidities	35
VII	Distribution of the studied cases according to history of acute cholecystitis and recurrent biliary colics	36
VIII	Distribution of the studied cases according to inflammation grade in Calot's triangle	36
IX	Distribution of the studied cases according to artery number,site,size,grade and relation to LN	38
X	Distribution of the studied cases according to the use of Maryland or hook and number of pulses in cauterization group	43
XI	Distribution of the studied cases according to bleeding, drain usage, operative time and control time	44
XII	Positional variation of cystic artery	48

LIST OF FIGURES

Figure		Page
1.	Boundaries of Calot's triangle	1
2.	Cystic artery diameter.	3
3.	Anatomic variations of the blood supply for the gallbladder	5
4.	Scheme for cystic artery anatomical variation	7
5.	Single cystic artery inside Calot's triangle	8
6.	Accessory cystic arteries	9
7.	Cystic artery outside Calot's triangle	10
8.	Single or double cystic arteries outside Calot's triangle	11
9.	Impact of elevated temperature on cells	16
10.	Formation of electrosurgically- induced vessel seal	16
11.	Electrosurgery modalities	18
12.	Zones of injury	21
13.	Direct coupling	22
14.	Insulation failure	23
15.	Capacitive coupling	24
16.	Example of one type of active electrode monitoring system used to detect insulation failure in laparoscopic instruments	25
17.	Single cystic artery	39
18.	Double cystic arteries	39
19.	Cystic artery inside Calot's triangle	40
20.	Cystic artery outside Calot's triangle(cystic artery lateral to cystic duct)	40
21.	Cystic artery outside Calot's triangle(cystic artery anterior to the duct)	41
22.	Intraoperative measurement of cystic artery diameter	41
23.	Cauterized and divided cystic artery before cystic duct clipping	42
24.	Large sized cystic artery efficiently cauterized	42

LIST OF ABBREVIATIONS

ALT	Alanine Transaminase
AST	Aspartate Transaminase
BDI	Bile Duct Injury
CA	Cystic Artery
CBD	Common Bile Duct
CD	Cystic Duct
CHA	Common Hepatic Artery
CHD	Common Hepatic Duct
CT	Celiac Trunk
DC	Direct Current
ESU	Electrosurgical Unit
GDA	Gastroduodenal Artery
GSD	Gall Stone Disease
HBsAg	Hepatitis B Surface Antigen
HCVAb	Hepatitis C Virus Antibody
INR	International Normalization Ratio
LC	Laparoscopic Cholecystectomy
LHA	Left Hepatic Artery
LN	Lymph Node
No.	Number
PT	Prothrombin Time
PTT	Partial Thromboplastin Time
RHA	Right Hepatic Artery
Sec	Seconds
UAS	Ultrasonically Activated Shear
USA	United States of America