SCORING SYSTEM TO PREDICT DIFFICULT LAPAROSCOPIC CHOLECYSTECTOMY

Abd El-Hamid Ahmed Ghazal, Hany Mostafa Kamel El-Haddad, Ahmed A. Sabry, Ahmed Abd El-Wahab El-Sayed
Department of GIT Surgery, Faculty of Medicine, Alexandria University, Egypt

Introduction

Gallstones are a major cause of morbidity worldwide. Gallstones are biliary tract concretions that commonly originate in the gallbladder. Gallstone disease is quite common in the general population, frequently causes hospital admissions, and is associated with substantial expenses due to morbidity and treatment

Laparoscopic cholecystectomy (LC) can occasionally be challenging. Even with bile or stone spilling, it takes longer, and occasionally conversion to an open cholecystectomy is necessary. Preoperatively, it is quite difficult to predict if it will be simple or complex. Once more, it is difficult to anticipate the level of difficulty. There isn't a rating system in place right now to anticipate complexity and level of difficulty. We have evaluated one such approach for anticipating the level of difficulty in LC.

Aim of the work

To determine the role of scoring system in predicting the difficulty of laparoscopic surgery in laparoscopic cholecystectomy.

Patients and Methods

The study will include sixty patients who will be admitted to the unit of GIT surgery, faculty of medicine, Alexandria Main University Hospital with symptomatic cholelithiasis and scheduled for elective laparoscopic cholecystectomy.

A preoperative score will be given to every patient on the basis of history, clinical examination and sonographic findings (Table 1). Score up to 5 is defined as easy, 6-10 as difficult and 11-15 as very difficult

The following operative parameters (Table 2) will be recorded for all the patients undergoing laparoscopic cholecystectomy:

- Time taken for surgery.
- Bile/stone spillage.
- Injury to cystic duct or cystic artery.
- Conversion to open cholecystectomy.
- Blood loss.

Postoperatively, we will define the surgical procedure as easy, difficult and very difficult.

Table 1: Scoring factors used for grading the patient parameters.

		Score	Max score
History			
Age	≤50	0	1
	>50	1	
Sex	male	1	1
	female	0	
History of hospitalization	yes	4	4
for acute cholecystitis	no	0	
Clinical parameters			
BMI	<25	0	2
	25-27.5	1	
	>27.5	2	
Abdominal Surgery	No	0	2
	Infraumblical	1	1
	Supraumblical	2	2
Palpable gall bladder	Yes	1	1
	No	0	1
Sonography	Thin	0	
Wall thickness	Thick	2	
	No	0	
Pericholecystic collection	Yes	1	
	No	0	
Impacted stone	yes	1	

Score 0-5 easy, 6-10 difficult, 11-15 very difficult.

Table 2: Intra operative assessment.

Parameter	Score	Grading
Time taken <60 min & No bile spillage & No injury to duct	0-5	Easy
Time taken 60-120 min and/or Bile or stone spillage and/or Injury to duct	6-10	Difficult
Time taken >120 min or conversion	11-15	Very difficult

Results

Table 3: Distribution of the studied cases according to score in pre-operative (n = 60)

Score	No.	%
Easy (0 – 5)	45	75.0
Difficult (6 – 10)	13	21.7
Very difficult (11 – 15)	2	3.3
Min. – Max.	1.0 –11.0	
Mean ± SD.	4.28 ±2.93	
Median (IQR)	3.0 (2.0 –5.50)	

Table 4: Distribution of the studied cases according to grade in intra operative (n = 60)

Grade	No.	%
Easy (0 – 5)	36	60.0
Difficult (6 – 10)	19	31.66
Very difficult (11 – 15)	5	8.33

Table 5: Relation between score in pre-operative and grade intra operative (n= 60)(%from total)

Pre-operative	Score in intra-operative: Easy (0 – 5)		Difficult (6 – 10)		Very difficult (11 – 15)		χ^2	^{MC}p
	No.	%	No.	%	No.	%		
Grade								
Easy (0 – 5)	33	55.0	12	20.0	0	0.0		
Difficult (6 – 10)	3	5.0	6	10.0	4	6.66	9.069 *	< 0.0107 *
Very difficult (11 – 15)	0	0.0	1	1.7	1	1.7		
κ (Strength of agreement)	0.304 fair agreement							

Conclusion

- The gold standard treatment for gallstones is laparoscopic cholecystectomy (LC).
- The preoperative scoring system is strongly recommended for predicting the degree of difficulty for laparoscopic cholecystectomy. Furthermore, more research on the application of the intraoperative scoring system is recommended.
- Randhawa score is a good scoring system for prediction of difficult laparoscopy, we found that many factors are given as predictors for difficult LC as male sex, BMI, history of previous acute attack, thick wall GB, and abdominal surgery.