Our approach to make a difficult cholecystectomy safer

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Laparoscopic cholecystectomy is one of the most common laparoscopical procedures done throughout the world. Post-operative complications are still higher for laparoscopic cholecystectomy compared to open cholecystectomy. Difficult cholecystectomy or doing cholecystectomy in difficult situations at risk, could be either patient related or disease related or both. Mostly these cases are acute cholecystitis. Acute cholecystitis is the most common cause for a difficult gall bladder dissection and accounts for 10% of the cholecystectomies. The aim of the study is to demonstrate a safe method for dissection of a difficult cholecystectomy laparoscopically. We are working at CSCR (Centre for specialized care and research) Chittagong, Bangladesh and are following the development of different stages of guideline of safe laparoscopic cholecystectomy as TG13/ TG18 and safe cholecystectomy program of SAGES. From February'2017 to November 2020 we have performed 151 laparoscopic cholecystectomies (Male female ratio 1:4)

Total laparoscopic cholecystectomies done from 01.02.2020 to 01.11.2020 = 151

Gender ratio = Male: Female= 36:115 (1:4)

Age distribution

•Less than 30 years	•	23
•30-49	•	61
•50-69	•	59
•More than 70	•	08
•Total	•	151

•Total no. of conversions: 0

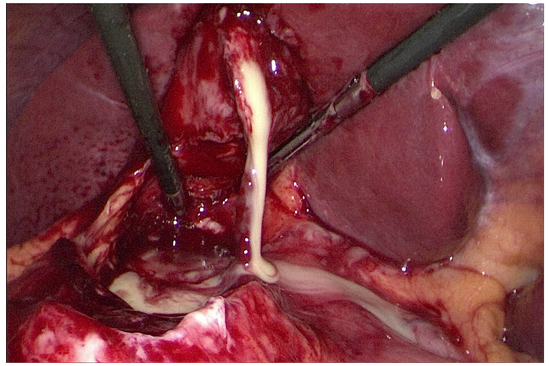
Out of which 33 were acute cholecystitis cases, among which male-female ratio was about 4:3. Our percentage of acute cholecystitis is almost double (21.85%) of what is mentioned in world literature (10%).
Difficult cases.

Year	Total cases	Difficult case	Male difficult	Female difficult
2017	44	08	04	04
2018	49	12	07	05
2019	30	10	08	02
2020	28	03	-	03
	151	33	19	14

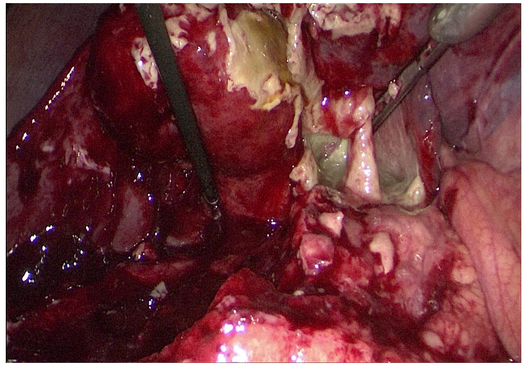
Male female ratio of difficult (acute) cases= 19:14 (4:3)

Aspiration of the gall bladder was done whenever needed. Difficult dissection of hepatocystic triangle was done by pouring water first then adapting blunt dissection, what we named as **hydro-dissection**. If needed clipping of cystic artery or arteries before clipping cystic duct was preferred. Usually, we clip vessels near the gall bladder ascertaining it ends in gall bladder surface in such acute cases. It helps us in anatomical variations though apparently differs with the CVS but actually not because these are anatomical variations. If we failed to do total cholecystectomy, subtotal cholecystectomy was considered in such cases, by not closing the stump, putting the drain for two weeks and follow up USG before removing the drain. Serum bilirubin is estimated sometimes if indicated. We didn't do any cholecystostomy for Grade III cases as a bail out procedure. We didn't use intra operative cholangiogram. Last four years we had no conversion and no major complications other than one mortality after one month of operation related to patient's comorbidities. Diabetes and elevated creatinine were most common co-morbidities. So, we consider **hydro-dissection** and handling of artery first, if possible and cystic duct last as a safe method of doing acute cholecystitis.

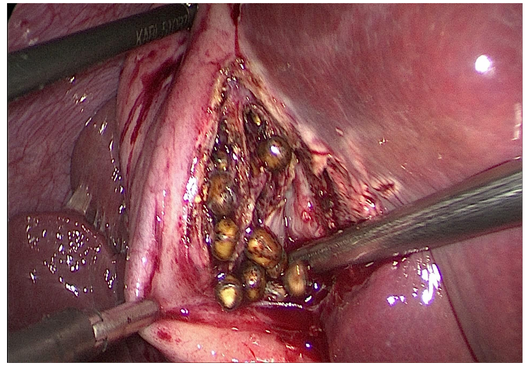
Abbrevations: CVS: Critical View of Safety, USG: Ultrasonography



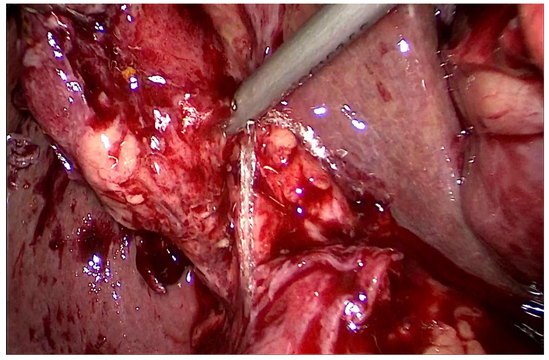
Empyema Gall Bladder



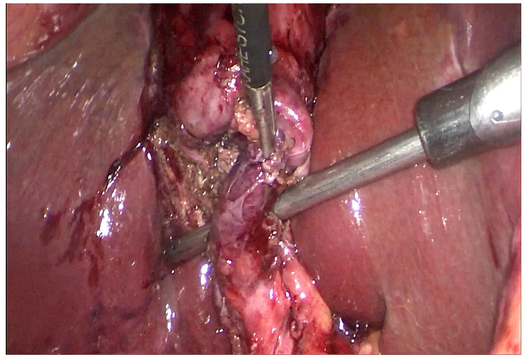
Gangrenous Gall Bladder



Preparing for Subtotal Cholycystectomy



Hydrodissection



Cystic Duct Dissection

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