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Middle Hepatic Vein Injury during Laparoscopic Cholecystectomy: Bleeding From Gb Bed And Its Management, In Kmch Katihar

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ABSTRACT:-
Bleeding from gall bladder bed during lap. Cholecystectomy is the high risk factor of conversion to laparotomy. Injury of middle hepatic vein in the major cause of bleeding from GB fossa. Aim of study is to report our team's experience of Laparoscopic management Of bleeding from GB fossa due to injury of middle hepatic vein. In our study there are 4 patient with MHV injury,there report is analysed retrospectively. Hemostasis was achieved first by gauze compression in all patient. Injured vein is sutured with 3-0 catgut under laparoscopy in one patient. In 3 patient bleeding from injured MHV is controlled by lap hem-o-lok tip. Mean spent time is 30 minutes. Lap.cholecystectomy perform successfully in all case,no need of blood transfusion in any patient. No any serious complication like CBD injury, hepatic injury found in any patient. All were discharged and no any complication occurred during 1 year follow up. Treatment of injured MHV is safe and effective in lap.procedure. Gauze compression is the first choice treatment of hmg.in laparoscopic cholecystectomy. But when lap.treatment of hemorrhageis difficult it still should be converted in open surgery.

Keyword- Laparoscopic cholecystectomy, middle hepatic vein, gall bladder.

I. INTRODUCTION:

Laparoscopic cholecystectomy(LC) has been the procedure of choice for patients with calculus cholecystitis. Operation has significant minimally invasive effects but is still has serious complications such as CBD injury and hemorrhage , it affects the safety of LC. Bile duct injury and variations of cystic artery have received extensive attention. Dissection of GB using important steps during LC we have found bleeding from GB bed during surgery due to middle hepatic vein or artery commonly when GB is inflamed. Injury of MHV in uncommon during GB dissection but when it occurs bleeding is difficult to control. It may lead to CO2 embolism and shock. It is also one of the important reason for LC conversion to open cholecystectomy.

There are some reports of lap management for hemorrhage from GB bed due to injury of MHV during LC.

II. METHODS:

There are 671 patients with cholelithiasis were treated by LC, among them 4 patients had hemorrhage due to MHV.

Duration of study is March 2018 to February 2021 Place of study- Dept of general surgery, Katihar medical college, Katihar, Bihar Clinical record was analysed retrospectively for all 4 patients.

There were 3 men and 1 woman in the study, with an average age of 40 years (range 25-65 years).

Preoperative diagnosis of calculus or acalculous cholecystitis based on presence of pain in right side upper abdomen and tenderness with or without leucocytosis. Most commonly upper abdomen USG was used to detect calculi in GB. Two patient received MRI and MRCP evaluation for mild raised bilirubin and dilated CBD before surgery. All 4 patients received clinical evaluation and routine hemogram and biochemical test preoperatively. After surgery doppler test done for further confirmation of intraoperative diagnosis of MHV injury during LC.

LC performed by four port technique, GB separation by hook electrocautery, after clipping of the cystic duct and artery, it was divided. When bleeding occurred in GB bed during dissection gauze was used to compress the bleeding site to

stop bleeding. Pressure was kept with gauze at least 10 minutes, when hemostasis achieved, then location of hemorrhage exposed sufficiently and hem-o-lok clip was placed in visual field. On confirming the bleeding originated from the branch of MHV, the injured branch was picked up and clipped. If necessary 2 clips were applied to close the damaged vessels. After that confirming no bleed from GB bed, then LC for continued.

When after all above technique, bleeding didn't stop, then through 5mm trochar in the ant axillary incision to expose the surgical field. Dissection of GB bed done retrogradely until the bleeding site was adjacent to favor of the performance of hemostasis, injured vessels sutured with 3-0 non absorbable suture to completely stop bleeding, geletin sponge placed in GB fossa and complete the LC.

III. RESULTS

LC was completed in all 4 patients, incidence of injury of MHV is 0.6% during LC. Bleeding due to injury of the branch of MHV was diagnosed during LC in each patient and the liver parenchyma around the MHV branch was lacerated in one patient. Bleeding occurred during dissection of GB body in 3 patients and one case hemorrhage occurred in the end of separation of GB neck.

Hemorrhage occurred in the longitudinal axis of the GB in 2 patients, and on the left side of longitudinal axis in 2 patients.

Compression hemostasis was firstly performed in all patients, and injured branch of MHV was sutured with 3-0 non absorbable suture under laparoscopy in one patient, rest 3 patients were managed successfully by closing the injured branch of MHV by laparoscopic hem-o-loc tip. Mean time was 30 minutes for achieving hemostasis.

MRI scan evaluated the branch of MHV close to GB in 1 patient.

Postoperative doppler study confirmed the intra operative injury of MHV. In all 4 patients no need of blood transfusions, serious complications such as bile duct injury and hepatic artery bleeding didn't occur during LC. There was no obvious abnormality found.

All 4 patients were cured and discharged.

HB% was found to be normal after 3 weeks of discharge in each patient. No any complication occurred after 1year of follow-up.

IV. DISCUSSIONS:

Hemorrhage from GB bed caused by injury of branches of MHV is a rare complication during LC and is unexpected. Incidence of uncontrolled bleeding during LC is 0.1% to 1.9%. In this incident the percentage of hemorrhage originated from GB is 88%. Branch of MHV runs close to GB in few patients is an anatomical based injury and hemorrhage during lap procedure. Close distance between MHV and GB taking high risk of injury and bleed. CT scan and Doppler USG used to evaluate the anatomical relationship between GB and MHV branch. MRI scan also suggestive in present study in two patients, however purpose of MRI and MRCP is to rule out lesion in GB and bile duct in present study.

Bleeding during LC usually controlled with simple compression and electrocoagulation but sometimes it failed to stop hemorrhage, especially when inflamed GB and branch of MHV. Bleeding starts suddenly after injury of MHV, it is brisk, hence surgery kept calm during hemostasis compression with gauze for 10 minutes to reduce bleeding then identify the injured blood vessels and correct plane of dissection, the vessels is clipped with hem-o-lok clip. But when uncontrolled bleeding occurred in liver parenchyma then controlled by suture. There is no any other complication such as hemorrhage or CBD injury occurring in all 4 patients and procedure of LC was performed successfully.

V. CONCLUSIONS:

Management of hemorrhage caused by MHV branch injury in GB bed is safe and effective, calm surgery and maintain a clear vision is the premise of effective control of bleeding. Compression with gauze is the first choice to control hemorrhage during LC.

But when it is difficult it should be timely converted to open surgery.

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