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Predictor of difficult Laparoscopic Cholecystectomy

KEYWORDS

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INTRODUCTION-

Laparoscopic cholecystectomy has become the gold standard for the management of symptomatic gall stone disease (1). Sometime it becomes difficult and takes longer time even with stone spillage and sometime it requires conversion to open cholecystectomy. It is very difficult to say whether it is going to be easy or difficult cholecystectomy. At present there is no system available to predict the degree of difficulty in laparoscopic cholecystectomy.

MATERIALS AND MAETHODS-

Eighty cases of cholelithiasis admitted in the department of surgery, Jawaharlal Nehru Medial College Hospital, Bhagalpur (Bihar) in the period from January 2015 to December 2015 were studied. The study was done for identification of factors which led to difficult laparoscopic cholecystectomy and either resulted in open procedure or took more time to complete the operation. The cases of laparoscopic cholecystectomy in which conversion to open was done due to equipment failure were excluded from the study. Easy laparoscopic cholecystectomy usually took < 60 minutes, there was no injury to duct or artery. Difficult laparoscopic cholecystectomy had operative time > 60-120 minutes, there was biliary spillage or stone spillage, injury to duct or there was conversion to open cholecystectomy.

RESULTS-

Among the eighty studied cases, twenty five cases were difficult cases. In twenty cases the operation was converted to open cholecystectomy procedure. Five cases were completed laparoscopic ally, but it took longer duration to complete the procedure. Among the difficult cases five cases were above fifty years. Out of twenty cases only four were females. History of long duration of stone was present in about 13 cases. Of the total twenty difficult cases 14 cases were obese . History of upper abdominal operations was present in 9 cases. Sonography showed thick wall of gall bladder in 7 cases. Gall bladder impacted with stone was present in 6 cases. Creative Protein (CRP) was above > 220 mg /dl in 14 cases.

DISCUSSION-

Age above sixty make it difficult and conversion to open is higher with increasing age (2). Male Sex have difficulty during operation and may lead to conversion (3). Previous abdominal scar (supraumbilical) will lead to conversion to open cholecystectomy. If gall bladder is palpable then it would be difficult, as there may be residual inflammation adhesion (4). Sonographically gall bladder wall thickeness > 4 mm would have more chance of difficult lap chloecystectomy. Similarly pericystic collection on USG report would have difficult lap chloecystectomy (5). Gall bladder impacted with stones have difficult laparoscopic procedure.

C-reactive protein is an acute phase reactant protein secreted by the liver in response to interleukin – 6 and other pro-inflammatory cytokines in the context in inflammation, infection, trauma, malignancy and tissue infarctions (6). Its circulating concentration is determined by its rate of synthesis reflecting the intensity of the pathological process(7). If the level of CRP is > 220 mg/dl then the chances of inflammation around calot's triangle would be more leading to difficult laparoscopic chloecystectomy or even conversion to open (8).

Meta-analysis comparing results of emergency and delayed laparoscopic chloecystectomy showed no difference in conversion rate implying that once gall bladder is significantly inflamed delaying the surgery does not necessarily make the operation easier or avoids conversion (9).

Difficult laparoscopic chloecystectomy have more morbidity than open cholecystectomy. This is similar to Ginger et al analysis of 22953 patients from Swiss database that the risk of complication of laparoscopic cholecystectomy is increased with conversion as well as with longer operating time (10). Addition of each 30 minutes duration increases chances of both local and systemic post operative complications.

CONCLUSION-

Factors which increase the chances of difficult laparoscopic cholecystectomy should be in our mind before starting the procedure. It would help in taking quick decision whether to pursue the procedure laparoscopically or to convert it into open procedure. It would decrease the duration of operating procedure. So keeping an eye to the factors of difficult laparoscopic cholecystectomy before starting the operation will significantly reduce the post operative morbidity.

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