INTRODUCTION:

The introduction of Laparoscopic surgery is the outstanding advancement in the surgical era. Minimally access surgical procedures have progressively become the advancing technique due to the new discoveries in telescopic instrumentation, and techniques of different surgeries. The surgery to remove the gallbladder is called Cholecystectomy. A less invasive way to remove the gallbladder is called Laparoscopic cholecystectomy (LC). Currently the LC is a gold standard treatment for cholecystectomy. Many authors emphasize that LC has many advantages when compared with open Cholecystectomy. The described method is the most preferred procedure with less chances of destroying natural layers of the anterolateral abdominal wall, rare frequency of post operative complications, less traumatizing, less pain after procedure with better cosmetic effects.

Abstract

Objective: To assess the frequency of cystic lymph node within the Calot’s triangle and to identify the relation of Cystic artery with cystic lymph node.

Study design: Cross Sectional study.

Place and Duration: This study was done at the department of surgery Dow University of Health Sciences (DUHS) and civil hospital Karachi from September 2011 to April 2013 (series 2).

Methodology: Non probability, purposive sampling technique was used for sample collection. The samples were 300 diagnosed cases of Cholelithiasis, undergoing Laparoscopic Cholecystectomy in Civil Hospital Karachi and other private hospitals of Karachi. Laparoscopic Cholecystectomy was performed under general anesthesia using the four port technique. The information of anatomy on endoscopic visualization was recorded by DVD recorder after taking the informed consent of the patient. Over all frequencies of cystic lymph node were noted and the relation of it were identified with cystic artery.

Results: SPSS (version 16) was used in the analysis. Overall frequencies of the cystic lymph node and relations of the variation were noted. Out of 300 cases there were 53.33% cases having a lymph node in Calot’s triangle and 46.67% (n=140) cases with no lymph node in the Calot’s triangle. Out of 160 cases with lymph node, there were 40.6% cases with a cystic artery anterioinferior to the lymph node and 59.4% cases having cystic artery posterioinferior to the lymph node.

Conclusion: We found cystic lymph node in more than half of the cases. We also found a significant relation of the node with the cystic artery. Surgeons can use the lymph node as a landmark for the identification and clipping of the cystic artery. This information will be helpful in the safe procedure of the laparoscopic cholecystectomy.

Keywords: Variation of lymph node of Lund, laparoscopic cholecystectomy, laparoscopic anatomy of Calot’s triangle, Cholecystectomy

Lymph node significance in cystic artery identification during Laparoscopic Cholecystectomy

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ever the risk of intraoperative injury during LC is significantly higher. The most frequent complications are hemorrhage, bile leakage, lost gall stones, and iatrogenic bile duct injuries. Cystic artery is one of the important content of Calot’s triangle showing great variability. The terminal part of the cystic artery is the most troubled part; identification of the variation in this part is an important step in LC. Cystic lymph node also known as Calot’s node enlarges in most of the acute and chronic calculus cholecystitis is an important landmark related to the cystic artery. Accurate knowledge of normal and the variant related anatomical structures and landmarks are required for the safe LC.

Methodology:
Patients, who were admitted to the surgical units of Civil Hospital, Karachi and other private hospitals of Karachi for the elective LC, were included in this research and evaluated to our predeveloped proformas. The patient or his/her attendant was asked to sign the ‘consent form’ after full explanation of need of recording of the LC. All the patients were examined by ultrasound before surgery. LC was carried out under general anesthesia, using four port techniques. The information of Calot’s triangle was recorded by the DVD recorder. The anatomical structures were viewed on a medical grade video monitor.

Results:
A total sample size of n = 300 individuals were calculated for analysis. Out of 300 cases there were 53.33% (n=160) cases having a lymph node in Calot’s triangle as shown in and 46.67% (n=140) cases with no lymph node in the Calot’s triangle. Out of 160 cases, there were 59.4% (n=95) cases having cystic artery posterioinferior to the lymph node as seen in figure 1A and 40.6% (n=65) cases with a cystic artery anterioinferior to the lymph node as shown in figure 1B.

Discussion:
Lymph node, a content of Calot’s triangle, inef-fectual structure in open cholecystectomy, has become an important landmark for the identification of cystic duct and artery during LC. We found n=160 cases having lymph node and in other n=140 cases the lymph node was absent. Out of 160 cases there were 59.38% cases having cystic artery posterioinferior to the lymph node and 40.62 cases having cystic artery anterioinferior to the lymph node within the Calot’s triangle. K tores et. al in 2009 have shown cystic lymph node near the cystic artery in 63.6% cases. In our study we observed and tried to explain the exact relation of cystic artery with the lymph node. Kunasani in 2003 explains that lateral dissection from the lymph node is the safe area in LC. Our explanation of the cystic artery relation with the lymph node was only recognized on the telescopic view. In our view the identification of the lymph node is helpful for the surgeon to dissect in the right direction for removal of the peritoneum or adherent omentum from the Calot’s triangle for the exposure of underlying cystic artery and duct. This further helps in prevention of injury to the Calot’s structures.

Conclusion:
Cystic lymph node occasionally found in the cases of calculus cholecystitis undergoing laparoscopic cholecystectomy. We found cystic lymph node as a useful marker in identification of Cystic Artery within the Calot’s triangle. We have document the frequently found relation of the cystic lymph node with artery. Surgeons can use the given relation as a landmark for the identification and clipping of the cystic artery. This information will be helpful in executing the uneventful laparoscopic cholecystectomy.

References: