Short Communication

IS CLEAN DISSECTION OF CALOT'S TRIANGLE NECESSARY IN CHOLECYSTECTOMIES ?

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ABSTRACT

In this study when patients were followed up for post-operative symptoms, it was seen that the incidence of narrowing of lumen of the common bile duct was more in cases where the operation was done by retrograde cholecystectomy with clean dissection of Calot's triangle. Though this was a coincidental finding, it raises a doubt whether the narrowing is a result of impairment of blood supply to the common bile duct, which may result from clean dissection and display of Calot's triangle area. The above dissection removes the fascial layer over the common bile duct and is likely to result in damage to end-arteries piercing through it to the common bile duct. This conjecture requires further study in a larger series.

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KEY WORDS : Cholecystectomy; Calot's triangle; Surgical technique; Common bile duct stricture.

Introduction

Langenbech performed the first cholecystectomy several years ago [1]. Presently cholecystectomy is a commonly performed operation all over the world. All the text-books advocate clean dissection of Calot's triangle as a part of surgery. In this study, while following up cases post-operatively for dyspeptic symptoms and other complications, it was incidentally seen that there was partial narrowing of the common bile duct (CBD) in cases where clean dissection of the Calot's triangle had been done.

This is likely to be due to the disturbance of the axial pattern of blood supply to the CBD. This complication is presented mainly to stimulate interest in further studies on the above finding, so that this serious complication can be prevented.

Material and Methods

Twenty cases of cholecystitis were taken up in this study to analyze, primarily, if dyspeptic symptoms (which are complained of by many patients post-operatively) have any relevance to the technique of cholecystectomy. Alternate patients were

operated by

a) fundus-first cholecystectomy and b) retrograde cholecystectomy with clean dissection of Calot's triangle.

The cases were, post-operatively, kept under follow up for periods varying from one to six years.

Results

In this pilot study, 6 patients out of 10 (60 %), who underwent retrograde cholecystectomy with clean dissection of Calot's triangle developed dyspeptic symptoms ranging from mild abdominal discomfort to symptoms resembling peptic ulcer dyspepsia. However frank ulceration was not seen in any case. Four of these cases revealed varying degrees of narrowing of the CBD. There was no jaundice in any patient.

These complications were not seen in any patient in the group operated by fundus-first cholecystectomy.

Discussion

Since narrowing of the lumen of the CBD, is a

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potentially serious complication it needs to be studied in detail. Warren et al, from Lahey Clinics, has reported a large number of cases, developing strictures after "Neat Cholecystectomy Operation" [2,3].

The blood supply to the biliary tree is by end-artries. Though the blood supply is reportedly rich, the arteries over the CBD region are axial vessels. These give branches piercing the fascia over the CBD and supply the duct wall. These vessels are end-artries and so the integrity of the duct system depends on these vessels [4].

When Calot's triangle is neatly displayed, as in classical retrograde cholecystectomies, this fascial envelope over CBD is clearly wiped out. So the terminal branches of the vessels are likely to be damaged and the brunt of resultant damage is suffered by the duct wall which undergoes necrosis and narrowing of the lumen.

Such narrowing was not seen in fundus-first cholecystectomy cases where Calot's triangle was

left undisturbed. There were no technical difficulties in this method. There was also no stone formation in the very small stump of cystic duct remaining.

In conclusion it is felt that the clean dissection of Calot's triangle is likely to disturb the arterial pattern and lead to narrowing of the lumen of the CBD. However this preliminary finding requires further consideration in a larger series.

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