DIFFERENCE IN PATHO-ANATOMY AND ITS INFLUENCE ON THE TECHNIQUE OF PERFORMING LAPAROSCOPIC CHOLECYSTECTOMY

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ABSTRACT

AIM

To document the differences in pathoanatomy of the gallstone disease between Tribals and Non-Tribals of Tripura.

MATERIALS AND METHOD

This retrospective study includes 719 cases who underwent laparoscopic cholecystectomy during the period February 2012 to January 2015 of which 163 were Tribals and remaining 556 were non-Tribals. History and symptoms of presentation were noted in both the groups and duration to first consultation also noted in both the groups.

RESULT

It has been observed that the disease is more prevalent in non-Tribals than Tribals. While performing laparoscopic cholecystectomy, it has been noted that adhesions of Gall bladder are more common in non-Tribals; 15.95% of Tribals had adhesions with omentum and adjacent viscera in contrast to 23.9% in non-Tribals; 19.2% of adhesions were thick in Tribals, whereas 30.82% were thick in non-Tribals; 15.38% adhesions were tough in Tribals in comparison to 28.57% amongst non-Tribals.

CONCLUSION

Laparoscopic cholecystectomy is comparatively easier in Tribals than non-Tribals due to difference in pathoanatomy including relatively redundant mesentery of Gall bladder making the dissection easier.

KEYWORDS

Cholecystectomy, Laparoscopic Cholecystectomy.

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INTRODUCTION

Gall stone is a highly prevalent disease in Tripura and it depends on many factors, the main being age and gender of the patient. Of the other factors, the ethnic background has also an influence.¹ Gall stones are very common among Mediterranean races and highest among Indians of New Mexico. Since the pioneering work of Phillipe Mouret in Lyon, France, in 1987. Laparoscopic cholecystectomy is the most effective surgical technique for management of symptomatic gall stone disease.² and it comprises the major bulk of operations done by general surgeons in our state. This study aims to document the differences in pathoanatomy of the gall stone disease between Tribals and non-Tribals of Tripura.

METHOD

We are performing laparoscopic cholecystectomy since 1997. We noticed differences in the pathoanatomy of gall bladder in Tribal and non-Tribal population of Tripura and decided to document it from February 2012 to January 2015.

This retrospective study includes 719 cases who underwent laparoscopic cholecystectomy during the period February 2012 to January 2015 of which 163 were Tribals and remaining 556 were non-Tribals. History and symptoms of presentation were noted in both the groups and duration to first consultation also noted in both the groups. Pneumoperitoneum was created by Veress needle through sub-umbilical incision in all patients. This was used for introducing the 10mm trocar. The pressure of CO₂ varied between 12 to 15mmHg. Other port sites were used as in conventional method. Resumption of oral feed, postoperative recovery and postoperative day of discharge were recorded in both the groups.

OBSERVATIONS AND DISCUSSION

In this study we observed that history including duration of symptoms is 1 year in Tribals whereas 6 months in non-Tribals. Duration to first consultation it is late in Tribals, is of 1 year in Tribals whereas 6 months in non-Tribals.

Following points and steps were considered to note the difficulties in performing laparoscopic cholecystectomy in the two aforesaid groups. Easy or straight forward cases were not taken into account.

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Sl. No.	Features	Tribals	Non-Tribals
1.	Adhesions of Gall Bladder:		
	a) With Omentum and adjacent viscera:-	26	133
	b) Thick adhesions	5	41
	c) Tough adhesions	4	38
	d) Inflamed adhesions with neovascularisation	2	23
	e) Between Liver and Diaphragm	1	14
2.	Thick Gall Bladder wall	53	241
3.	Long Gall Bladder mesentery	39	41
4.	Scarring in Calot's Triangle	2	23
5.	Friability of Gall Bladder	2	22
6.	Gangrene of Gall Bladder in acute calculous cholecystitis	0	1
7.	Biliary Enteric Fistula:	0	2
8.	Peroperative diagnosis of diseased liver (e.g. Cirrhosis)	2	5
9.	Difficult dissection at the liver bed	1	34
10.	Adequate working space within the abdomen in patients of varying body habitus	No difference	No difference
11.	Conversion to open cholecystectomy	2	19
12.	Total time required for operation	39	46

Table 1

Pathoanatomical variations in two groups

Conversion rate and total time

Calculous biliary tract disease is a major healthcare problem all over the world. Diet plays an important role in formation of Gall stone. Incidence of cholesterol gall stone increases with increased intake of dietary fat. Gall stones are more common in certain families. Current data suggests that 30% risk of Gall stone is hereditary and 70% is environmental, diet being the primary environmental factor.³ There is high prevalence in Native Americans and this points to the importance of genetic factor in the aetiopathogenesis of Gall stone.⁴

It has been observed that the disease is more prevalent in non-Tribals than Tribals. While performing laparoscopic cholecystectomy, it has been noted that adhesions of Gall Bladder are more common in non-Tribals; 15.95% of Tribals had adhesions with omentum and adjacent viscera in contrast to 23.9% in non-Tribals; 19.2% of adhesions were thick in Tribals whereas 30.82% were thick in non-Tribals; 15.38% adhesions were tough in Tribals in comparison to 28.57% amongst non-Tribals.

Only 7.69% of adhesions were inflamed with neovascularisation in Tribals in contrast to 17.29% in non-Tribals. Gall Bladder wall is thick in 31.51% in Tribals, whereas it was 43.34% in non-Tribals. Scarring of the Calot's triangle was present in 1.22% in Tribals and 4.15% in non-Tribals. Adhesion between liver and diaphragm was present in 0.61% of Tribals and 2.51% non-Tribals. Friability of Gall Bladder 1.22% in Tribals in contrast to 3.95% in non-Tribals. Cirrhotic liver 1.22% in Tribals and 0.89% in non-Tribals. Gall Bladder bed dissection 0.61% in Tribals and 6.11% in non-Tribals.

CONCLUSION

Laparoscopic cholecystectomy is comparatively easier in Tribals than non-Tribals due to difference in pathoanatomy including relatively redundant mesentery of Gall bladder making the dissection easier.

BIBLIOGRAPHY

1. Thai H Pham, John G Hunter. Schwartz's Principles of Surgery, 10th Edition 2015, New York. Gall bladder and the extrahepatic biliary system; 32:1309-1340.
2. Sanjeev Singla, Sandeep Singla, Sushil Budhiraja. Port site metastasis after laparoscopic cholecystectomy. Indian Journal of Surgery, Jan-Feb 2009;1:71:41-42.
3. Henry A Pitt, Steven A Ahrendt and Attila Nakeeb. Greenfield's Surgery Scientific Principles and Practice, 5th Edition, 2011, Philadelphia. Calculus Biliary Disease. 60:960-980 Lippincott Williams & Wilkins.
4. Nathanson LK. Hepatobiliary and pancreatic Surgery, 5th Edition 2014. Saunders Elsevier Philadelphia 10:174-195.