



ERCP IN POST SURGICAL BILE LEAK – OUR TERTIARY CARE CENTRE EXPERIENCE

Gastroenterology

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KEYWORDS

INTRODUCTION:

Bile leak is defined as persistent leakage of bile from biliary system . Laparoscopic cholecystectomy has revolutionised the management of gall stone disease , however it is associated with increased rates of complication when compared to open cholecystectomy¹⁻³.

Bile leak after laparoscopic cholecystectomy has been reported in the rate of approximately 2.2% in 1991 reports however the incidence had been decreasing since then with increasing experience and the complication rates have plateaued at 0.6%^{4,6}. Until the early 1990s bile leak was managed conservatively and in refractory cases a laparotomy was often required for repair . However the widespread use of ERCP has obviated the need for invasive laparotomy for selected patients^{7,8}.

Strasberg classification of bile duct injuries has been widely accepted. Type A – Injury to the cystic duct or from minor hepatic ducts draining the liver bed.

Type B – Occlusion of biliary tree commonly aberrant right hepatic duct(s)

Type C – Transection without ligation of aberrant right hepatic duct(s)

Type D – Lateral injury to a major bile duct.

Type E – Injury to the main hepatic duct

Our centre had been doing such works off late and the studies are very limited regarding the outcomes of this endotherapy work . So the aim of our study was to assess the success rates of endotherapy for various types of bile duct injuries .

STUDY POPULATION, MATERIALS AND METHODS :

The study was conducted in the institute of medical gastroenterology affiliated to the government general hospital Chennai which is the biggest tertiary government centre for the state of tamilnadu .All the

patients who underwent endotherapy for bile duct injuries were included in the study. All the injuries were post surgical. The injury was classified based on MRCP and cholangiogram findings according to the Strasberg method .The outcome was classified dichotomously into success or failure according to the improvement of symptoms and LFT , decrease in drain and a repeat imaging (MRCP or repeat cholangiogram) at the end of 6 weeks, and the results were analysed .

STATISTICAL ANALYSIS :

All the parameters were recorded and were analysed with the logistic regression method using the SPSS software

RESULTS :

49 patients underwent endotherapy for bile duct injuries . 29 of them were males(59%) and 20 were females(41%).

If the patient had a complex injury (Strasberg type B or E) they were managed surgically by default . Patients who had Strasberg types A , D and C were taken up for endotherapy.

35 patients had Strasberg type A injury(71%). 10 patients had Strasberg type D injury (21%). 4 patients had Strasberg type C(8%).

STRASBERG TYPE A INJURY :

Out of the 35 patients who underwent endotherapy for type A Injury 33 patients responded while 2 did not (94%). This was statistically significant with a p value of 0.048.

STRASBERG TYPE D INJURY :

Out of the 10 patients who underwent endotherapy for type D injuries 6 responded and 4 did not(60%). This was statistically significant with a p value of 0.014.

STRASBERG TYPE C INJURY :

Out of the 4 patients who underwent endotherapy for type C Injuries none of them responded and all of them had to be managed surgically.

DISCUSSION :

Minor and insignificant bile leaks are common after cholecystectomy, they generally result from the ducts in gall bladder bed (sub vesical ducts)^{7,9}. Routine post operative ultrasonography will detect small collections within the gall bladder bed in up to 24% of the patients⁸. The majority of these resolve without intervention or any adverse sequelae.

Significant postoperative bile leaks usually present within the first post operative week although the presentation may be delayed for upto 30 days¹¹. Presence of a significant bile leak is heralded by persistent bile discharge from an operatively placed drain or T tube tract, or symptoms of pain and fever in association with varying degrees of abdominal distension, ileus or jaundice.

The diagnosis is usually confirmed by USG although a negative imaging doesnot preclude the possibility of a clinically significant leak⁷. ERCP cholangiogram can delineate the site of leak in over 95% of the patients¹².

The goal of the endoscopic therapy is to eliminate the transpapillary pressure gradient, thereby permitting preferential transpapillary bile flow rather than extravasation at the site of leak. In most patients placement of biliary stent alone would suffice with sphincterotomy recommended only for retained stones¹³. However sphincterotomy was done in our centre when the access was difficult. Typically the stent was left in situ for a minimum of 6 weeks and if the drain volume is consecutively less than 10 cc then removal can be planned.

CONCLUSION :

For symptomatic patients with type A Strasberg injuries ERCP would be ideally the management of choice. Results are encouraging in type D as well. However in other types still surgical management appears to be the standard.

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