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T-TUBE DRAINAGE VERSUS PRIMARY DUCTAL CLOSURE FOLLOWING CHOLEDOCHOTOMY IN A TERTIARY HOSPITAL: AN OPEN LABEL RANDOMIZED CONTROLLED TRIAL

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Background : Approaches for extracting common bile duct (CBD) stones are either endoscopically or surgically, by an open or laparoscopic method. Irrespective of approach, T-tube drainage has been a standard method of treatment following exploration of the CBD but its usage is not exempt from morbidity. Primary ductal closure (PDC) of the CBD has been proposed as a more advantageous means of repair after choledochotomy, but majority of surgeons in this locality have not adapted its application and still use t-tubes routinely. This study aimed to determine the difference between the use of T-tube drainage versus PDC after CBD exploration in patients treated for choledocholithiasis in this tertiary regional hospital.

Methods : 22 patients aged 19-60 years with choledocholithiasis were enrolled in this non-inferiority, open label, randomized controlled trial to undergo either T-tube or PDC post-exploration using simple random sampling. Intraoperative findings, postoperative bilirubin levels, complications, JP drain output and length of hospital stay were recorded. Chi-square test of homogeneity, T-test and paired t-test were used to analyze collected data.

Results : The intraoperative time for PDC was significantly shorter than the T-tube group (p-value 0.04), with no differences in the perioperative vital signs and rate of bilirubin decrease postoperatively. Subjects with T-tube drainage had higher JP drain outputs compared to the PDC group, with a significant difference noted on the 1st post-operative day (p-value 0.034). Comparison of the length of hospital stay between the groups showed no difference. There were no intraoperative adverse events nor post-operative complications encountered for both groups and mean hospital stay was 3 days (p value 0.56). Follow-up outpatient consultation (mean 7 days) done revealed that among patients who underwent T-tube drainage, 72.73% complained of abdominal pain around the surgical site (p value 0.002) and 36.36% experienced post-prandial nausea (p value 0.027), compared to the PDC group.

Conclusions : Results of this study showed that PDC after choledocholithotomy can be safely performed in patients, with better patient clinical outcomes. Therapeutic outcomes provide surgeons with a sound alternative treatment modality in achieving shorter operating time and lesser post-operative morbidity for patients with choledocholithiasis. Further adequately powered trials, with a larger population and lower risk of bias are also suggested to include the long-term outcomes and complications of patients undergoing such treatment approach.

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