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EFFECTS OF LAPAROSCOPIC CHOLECYSTECTOMY ON LIPID PROFILE AND LIPOPROTEIN (A) STATUS IN BANGLADESHI PATIENTS WITH CHOLELITHIASIS

Objectives: As no studies were reported from Bangladesh, the present investigations were conducted on serum lipid profile, i.e. triglyceride (TG), total cholesterol (TC), low density lipoprotein-cholesterol (LDL-C), high density lipoprotein-cholesterol (HDL-C) and lipoprotein (a) [Lp(a)] status in Bangladeshi patients with cholelithiasis and effects of laparoscopic cholecystectomy on them.

Patients & Methods: Adult patients (n=44) with cholelithiasis and normal controls (NC) (n=30) were included in the study. The blood samples were taken from fasting patients at diagnosis before cholecystectomy (Serum-I⁰), gall bladder bile during cholecystectomy (Bile- I⁰) and blood samples again after 2-3 months at follow-up (Serum-II⁰) and from fasting NC subjects. TG, TC, LDL-C and HDL-C were quantitated by standard methods and Lp(a) status by immunoturbidimetric method in serum and bile using research kits from reputed companies. The results were compared statistically by ANOVA, Student's t-test and Chi-squared test using SPSS program.

Results: TG level was elevated in Serum- I⁰, Bile- I⁰ and Serum- II⁰ of patients, being highest in Bile- I⁰ compared to controls (NC) (p<0.001). TG level was reduced in serum -II⁰ after cholecystectomy compared to Serum- I⁰ and Bile- I⁰, although it remained significantly elevated compared to controls (NC) (p<0.001). TC level was elevated in Bile- I⁰ compared to Serum- I⁰ and Serum- II⁰ (p<0.001). Interestingly, TC was elevated in Serum- II⁰ after cholecystectomy, although no significant difference was observed between NC and patients Serum- I⁰ (p=0.835). LDL-C levels in NC, Serum- I⁰ and Serum- II⁰ were similar (p=0.126, p=0.121), although Serum-II⁰ levels was elevated compared to Serum- I⁰ (p<0.001) and it was much elevated in Bile- I⁰ (p<0.001). HDL-C levels were similar (p>0.05) among NC, Serum- I⁰ and Serum- II⁰, but it was higher in Bile- I⁰ significantly (p<0.001). Lp(a) (mg/dl) was much higher in patients compared to NC (Mean± SD: 29.07±14.17/NC, 290.84± 110.93/Serum-I⁰, 37.12±28.61/Bile-I⁰, 203.70± 90.13/ Serum-II⁰), (P< 0.001). Lp(a) was lowered after cholecystectomy, but remained elevated in patients Serum-II⁰ compared to NC significantly (P <0.001). No significant difference was observed for Lp(a) levels between NC and patients Bile-I⁰ (P = 0.173). The proportions of patients for Serum-I⁰, Bile-I⁰ and Serum-II⁰ with Lp(a) levels above and within normal limits and their statistical analyses showed significant associations (P<0.001)

Conclusion: Alterations in lipid profile and Lp(a) in cholelithiasis were significant but complex and laparoscopic cholecystectomy had profound effects on them indicating a special function of gall bladder relevant to their metabolism. The results were discussed accordingly.

Biography

ASM Giasuddin completed his MSc in Biochemistry from University of Dhaka, Bangladesh in 1969, He obtained PhD at the age of 27 years from University of London, UK in April 1976 and continued postdoctoral fellowships at London University until May 1982. He has been a Professor of Biochemistry and Immunology for the last 20 years since 1996 in various medical schools and universities in different countries. Presently, he is serving as Director of Medical Research Unit (MRU), The Medical and Health Welfare Trust (MHWT), Dhaka, Bangladesh. He has published more than 125 articles in reputed international and national journals.

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