

THE EFFECT OF CHOLELITHIASIS AND EARLY CHOLECYSTECTOMY ON THE OCCURRENCE OF DIABETIC COMPLICATIONS IN DIABETIC PATIENTS: LONG TERM FOLLOW- UP OF NATIONWIDE DATA

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Background : Asymptomatic cholelithiasis is often managed conservatively without surgery. However, evidence suggests that diabetic patients with cholelithiasis may face an increased risk of diabetes-related complications compared to non-diabetic individuals. This study aimed to evaluate differences in diabetes complications between early surgical intervention and observation in diabetic patients with gallstones, using these findings to propose updated clinical management guidelines.

Methods : We analyzed National Health Service database health check-up data from 2011 to 2021. Patients with pre-existing diabetes or cholelithiasis before 2011 and those with diabetic complications within six months prior to the index date were excluded. Diabetic patients were categorized into three groups: those undergoing surgery within six months of cholelithiasis diagnosis, those under observation, and those without cholelithiasis. The risk of diabetic complications was then evaluated across these groups.

Results : Among 21,370 diabetic patients, 17,096 had no gallstones, 2,137 had gallstones without cholecystectomy, and 2,137 underwent early cholecystectomy. Propensity score matching (1:4) was performed based on the surgery index date. Analysis revealed higher risks of nephropathy (HR 1.160, p=0.045) and neuropathy (HR 1.224, p<0.001) in patients with gallstones who did not undergo surgery compared to those without gallstones. Early cholecystectomy reduced neuropathy risk (HR 0.822, p=0.015), particularly in type 2 diabetes patients (HR 0.830, p=0.030), when compared to non-surgical follow-up.

Conclusions : In diabetic patients, the presence of new onset gallstones may serve as a clinical marker for the development of diabetic complications, and early cholecystectomy could be a potential strategy to mitigate diabetic complication risks.

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