

Ursodeoxycholic acid for the prevention of gallstone disease after laparoscopic sleeve gastrectomy: a Canadian perspective

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INTRODUCTION

- ❖ Obesity and bariatric surgery are risk factors for gallbladder disease.
- ❖ Ursodeoxycholic acid (UDCA) is currently recommended after Roux-en-Y gastric bypass (RYGB) to decrease gallstone formation.
- ❖ There is minimal data on the effectiveness of UDCA on gallstone disease after laparoscopic sleeve gastrectomy (LSG).

AIMS

- ❖ To detect the incidence of gallbladder disease in a population undergoing LSG with no clinical evidence of gallstones, who are routinely prescribed UDCA for 6 months after bariatric surgery.
- ❖ To assess the efficacy of UDCA on gallbladder disease after LSG and evaluate barriers to compliance.

METHODS

- ❖ Retrospective chart review from June 2009 to August 2019 of patients who underwent LSG at Dalhousie University, Halifax Nova Scotia.

Demographics	N=
Total patients	550
-prior cholecystectomy	208
-excluded (different province, revisional surgery, no data)	21
“no UDCA” group:	18
-non compliant with UDCA	11
-did not receive UDCA (referral from service)	7
“UDCA” group:	303
Female:Male	221:82
Average BMI (prior to LSG)	49.5

Follow up and weight loss:	% (n/303)
First follow up visit attended: (6 weeks post LSG, avg) %TWL	99.7% (302) 16.0%
Second follow up visit attended: (3 months post LSG, avg) %TWL	90.1% (274) 18.9%
Third follow up visit attended: (7 months post LSG, avg) %TWL	68.7% (208) 25.3%

%TWL: average total weight loss

RESULTS

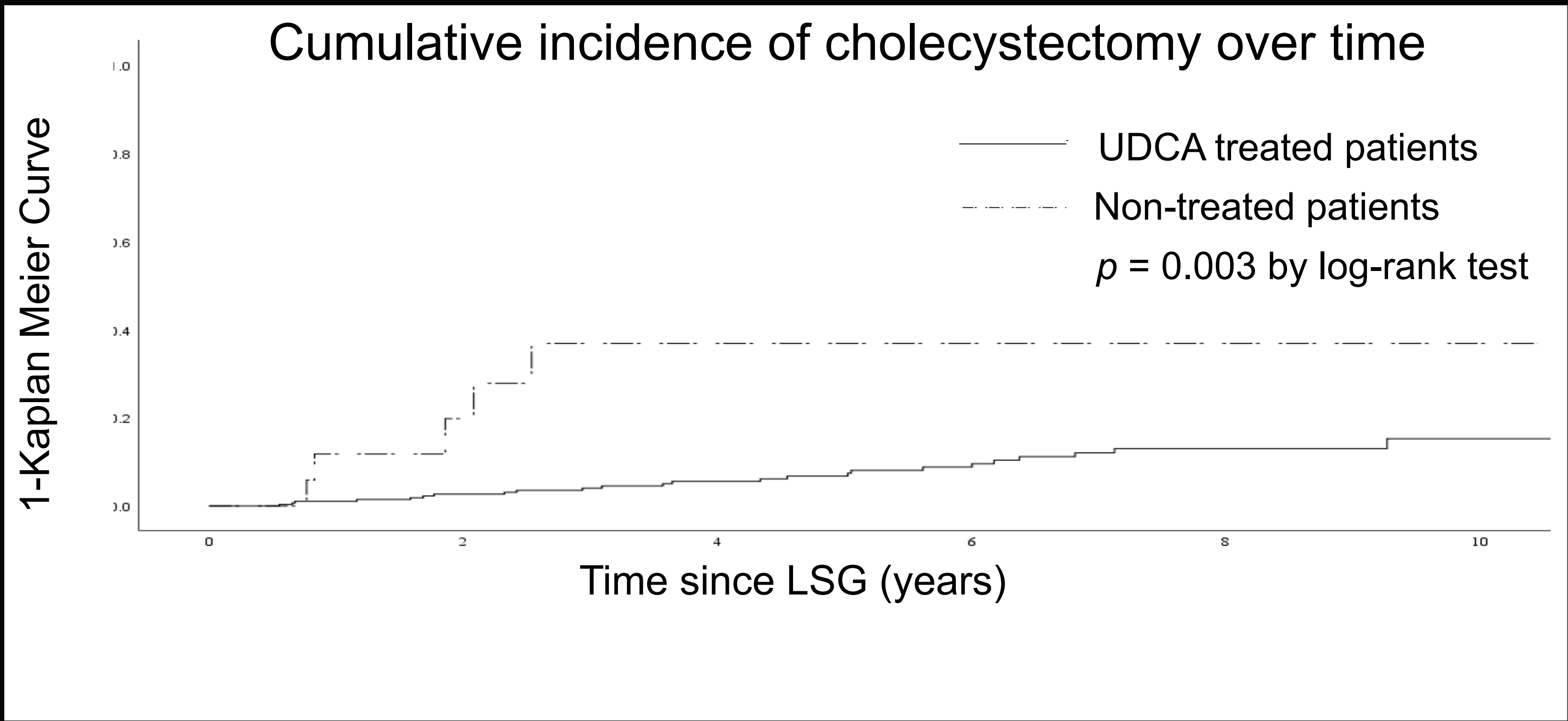
- ❖ In the first 24 months after LSG, 2.3% of patients compliant with UDCA required cholecystectomy versus 16.7% who were non compliant or did not receive UDCA (Fisher exact t-test , $p<0.05$).
- ❖ In logistical regression modelling, patients who were compliant with UDCA were 0.23 times less likely to require a cholecystectomy (logistic regression model $X^2_{(4)}=11.070$, $p=.012$, CI: 0.074-0.723).
- ❖ The cumulative incidence curves for the rate of cholecystectomy after LSG are significantly different between the patients who received UDCA versus those who did not over 10 years; the study length (see graph).
- ❖ 96.5% of patients were compliant with UDCA (303/314). The most common barrier to compliance was cost (5/11).

	UDCA	No UDCA
Incidence of cholecystectomy	8.2% (25/303)*	27.7% (5/18)

* $X^2_{(1)}=7.691$: $p=.006$

DISCUSSION

- ❖ Current literature on the effectiveness of UDCA after LSG for gallstone disease is limited both in terms of follow up time span and number of participants†. This is one of the largest studies on this topic. In addition, follow up participation was high and more than 80% of patients (243/303) had a minimum of 2 years elapse since their LSG.
- ❖ Current literature states cholecystectomy post LSG is most common within the first 2 years post procedure†. This was consistent with our patients who did not receive UDCA. In patients who complied with UDCA, not only did UDCA mitigate the peak of gallstone disease within 2 years of LSG, but the current results are consistent with a long-term protective effect of UDCA against gallstone disease after LSG.



CONCLUSION

- ❖ UDCA for 6 months after LSG significantly lowers the incidence of cholecystectomy post procedure in patients with no clinical evidence of cholelithiasis.
- ❖ UDCA is well tolerated; the most common barrier to compliance is cost.
- ❖ Based on our experience we recommend that UCDA be adopted for LSG as it is for RYGB.