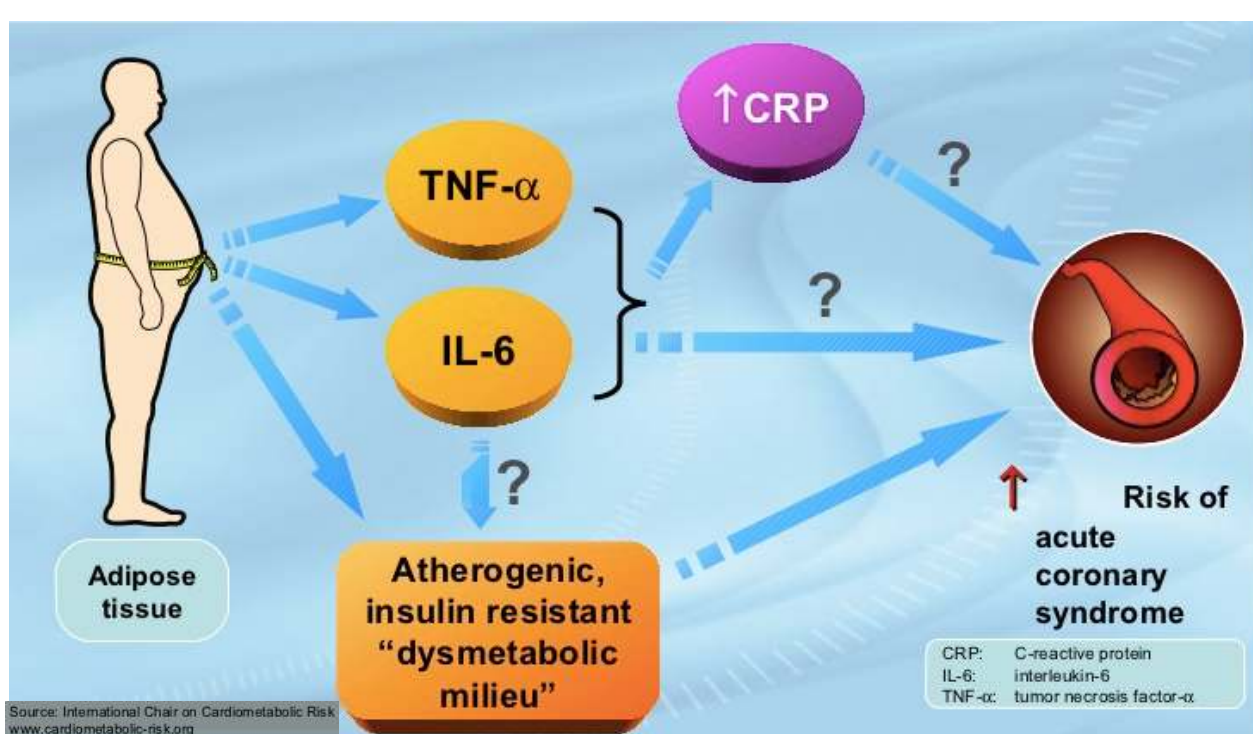


Laparoscopic Sleeve Gastrectomy Achieves Normalization of C-reactive Protein at 18 months after Surgery

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Introduction

Obesity leads to a chronic state of inflammation and elevated C-reactive protein (CRP). Bariatric surgery achieves both long-term weight loss and reduction in inflammatory markers. We aim to examine the effect of laparoscopic sleeve gastrectomy (LSG) on CRP levels.



Methods

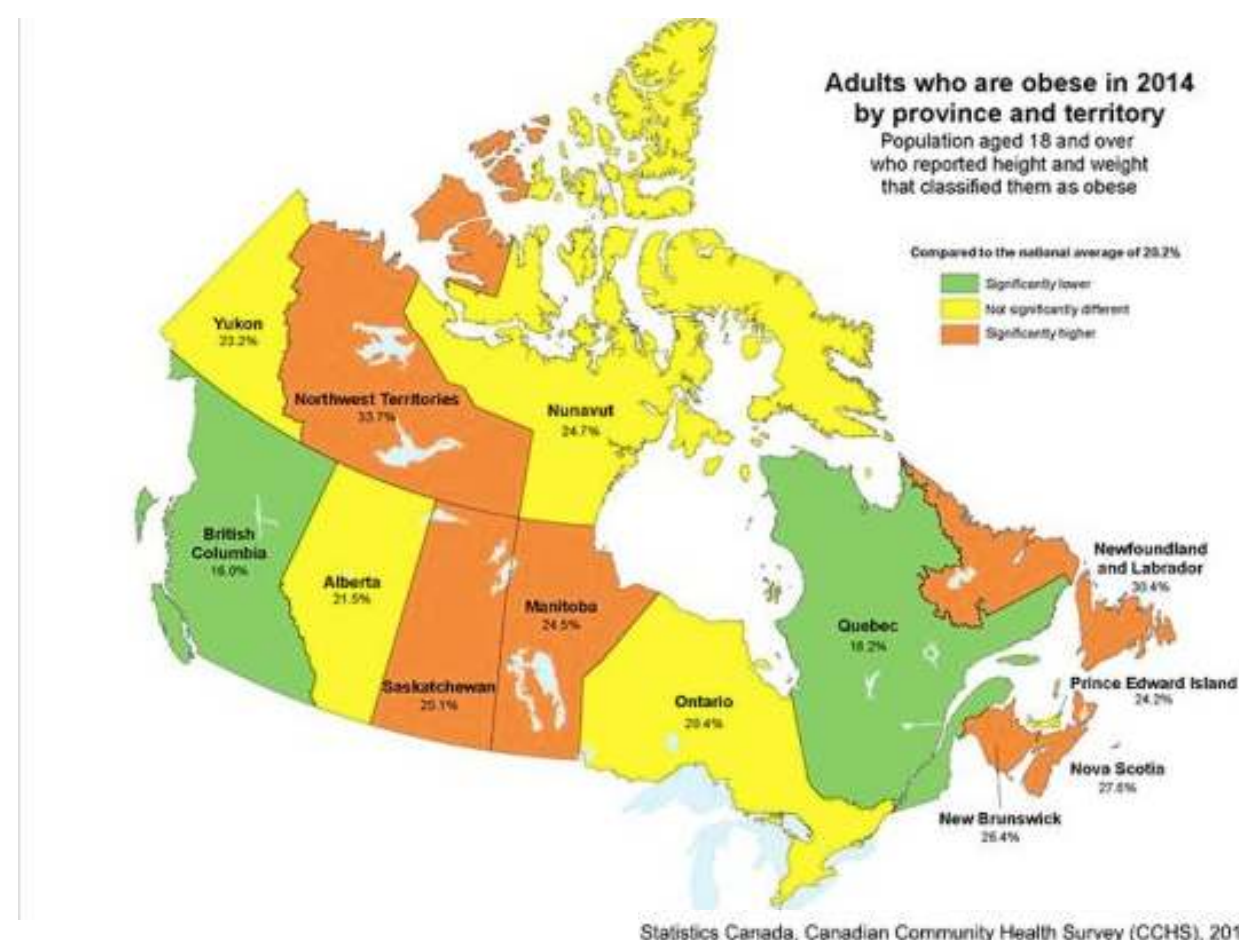
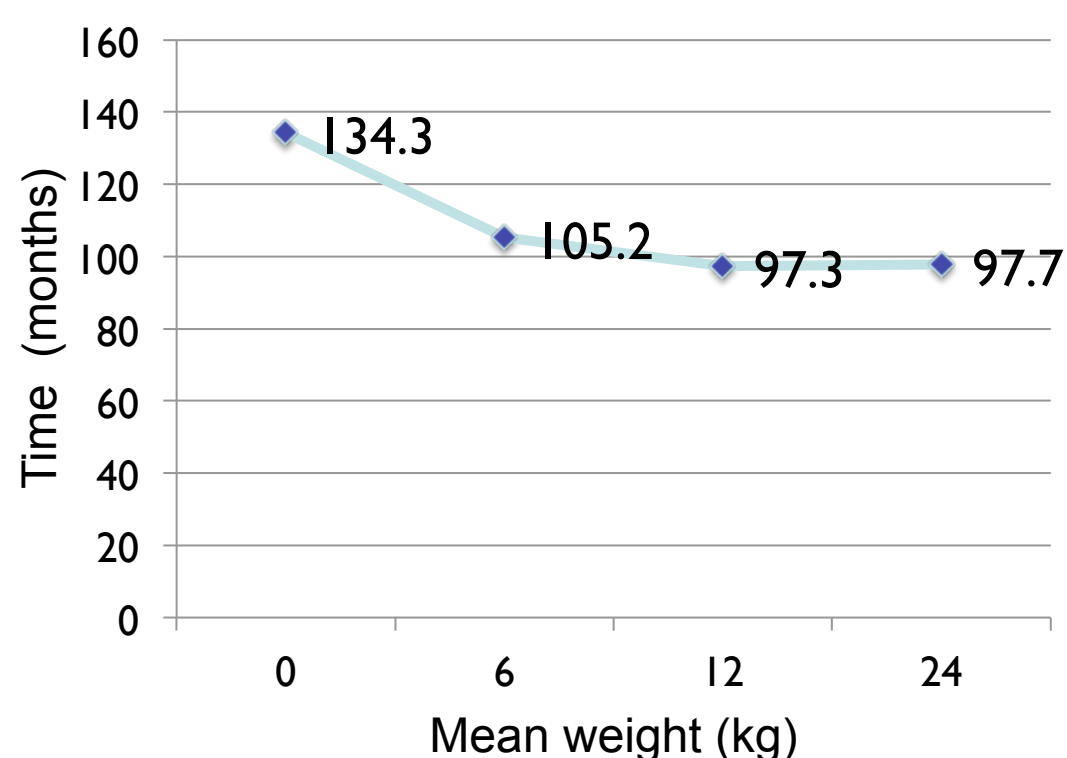
This is a retrospective review of LSG patients operated from May 2011 and February 2014.

- Primary outcome: CRP level at 6, 12, and 18 months post-op
- Secondary outcomes: weight loss, 30-day complications, and mortality

Results

209 patients underwent LSG with average pre-operative BMI 49.2 kg/m² (min 35.0 kg/m², max 67.4 kg/m²) and , average age 43.4 years (min 22 years, max 70 years). 82% were female. The most common comorbidities were hypertension (55.0%), obstructive sleep apnea (46.4%), dyslipidemia (42.1%) and diabetes (37.8%). The total average %BMIL was 59.8%kg/m² after 12 months and 58.5%kg/m² after 24 months.

Weight loss after LSG



The mean pre-op CRP level was 11.53mg/L (min 0.6, max 49.3). BMI was significantly higher among patients with elevated CRP (50.5 kg/m² versus 47.6 kg/m², p= 0.019). Pre-operatively, 89 patients (Group N) had normal (≤8mg/L) and 114 patients (Group E) had elevated (>8mg/L) CRP levels.

	Normal pre-op CRP (n= 89)	Elevated pre-op CRP (n= 114)	p-value
Mean pre-op CRP (mg/L)	4.66±1.99	16.9±8.84	<0.001
Mean CRP 1-year post-op (mg/L)	2.04±3.26	8.43±20.44	0.023
Mean CRP 18-months post-op (mg/L)	2.85±5.72	5.33±6.79	0.076

Group E had significantly more females and higher mean BMI. Overall 30-day complication rate was 15.3% (13.4% minor and 1.9% major). While overall complications were higher in Group N (19.1%) compared to Group E (12.3%), this was not statistically significant (p=0.238). No mortality occurred.

Conclusion

LSG leads to significant decrease in mean CRP levels, which normalize at 18 months post-operative. Female gender and BMI>50kg/m² were associated with elevated CRP levels. Elevated CRP levels did not correlate with post-operative complication rate.