

Prospective Clinical Study Reveals Significant Reduction In Triglyceride Level and White Cell Count After Liposuction and Abdominoplasty, No Change In Cholesterol Levels

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Purpose

High triglyceride levels are known to be associated with an increased cardiovascular risk and metabolic syndrome.¹ Previous studies have been limited by small sample sizes, and have examined mainly obese women.² This study investigates the effect of liposuction and abdominoplasty on lipid levels and other parameters in nonobese and obese patients.

Methods

A prospective study was undertaken among 322 consecutive patients (270 women and 52 men) who underwent liposuction ($n = 229$), abdominoplasty with liposuction ($n = 87$), and abdominoplasty without liposuction ($n = 6$). The mean body mass index was 26.6 kg/m^2 (range, 18.6 to 44.1). Ultrasonic liposuction using a superwet technique was used in all cases, usually treating the lower body in women (64.4 percent) and trunk in men (86.5 percent). Fasting blood tests were performed preoperatively, 1 month, and 3 months after surgery.

Results

For patients treated with liposuction alone (Fig. 1), the mean fasting triglyceride level decreased from 151.86 mg/dL to 112.88 mg/dL 3 months after surgery (-25.7 percent, $p < 0.001$). Over one-third of the liposuction patients (36.8 percent) had preoperative triglyceride levels $\geq 150 \text{ mg/dL}$. After liposuction, this proportion decreased to 17.8 percent ($n = 152$, $p < 0.001$). Among patients with at-risk triglyceride levels $\geq 150 \text{ mg/dL}$ before surgery, the mean reduction in triglyceride level was 43.0 percent ($n = 56$, $p < 0.001$).

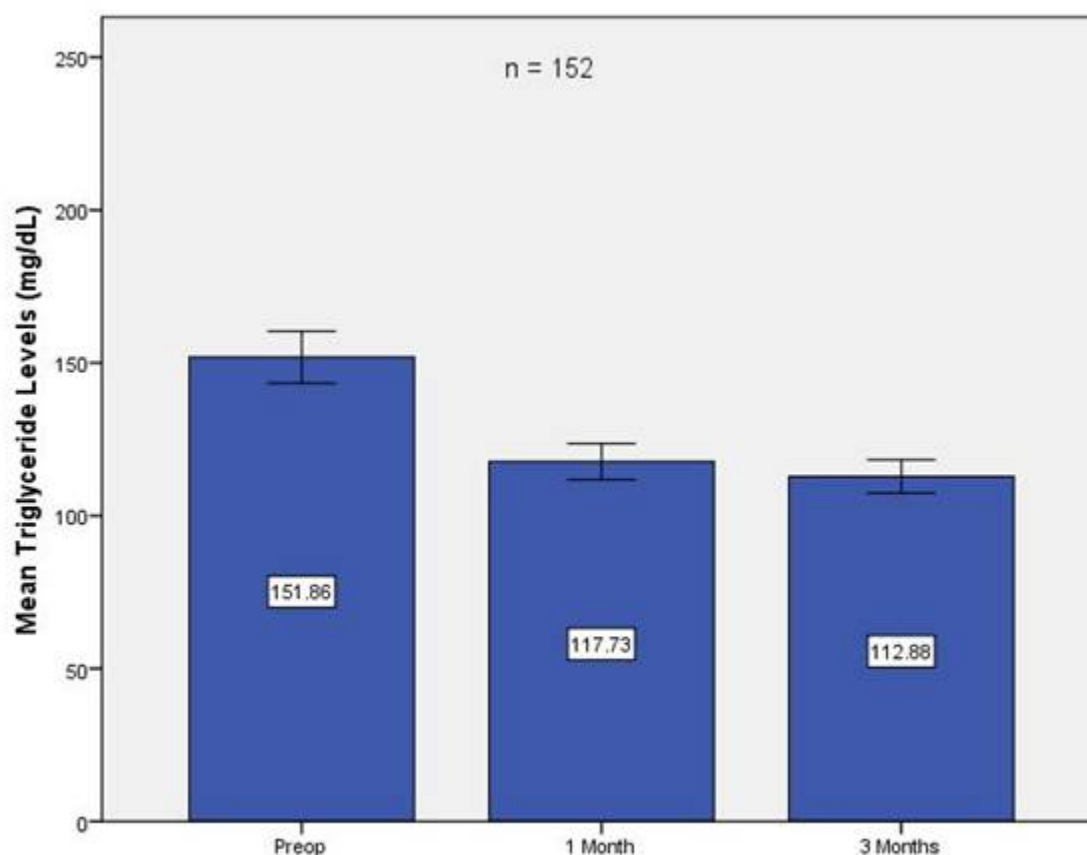


Fig. 1 Triglyceride levels before and after liposuction.

The mean white blood cell count decreased from 7.03 to 6.25 measured 3 months ($p < 0.001$) after liposuction (Fig. 2). Patients treated with liposuction and abdominoplasty also demonstrated a significant reduction in white count ($p < 0.001$). There were no significant changes in total cholesterol, LDL cholesterol, or HDL cholesterol. Mean fasting glucose levels were unchanged.

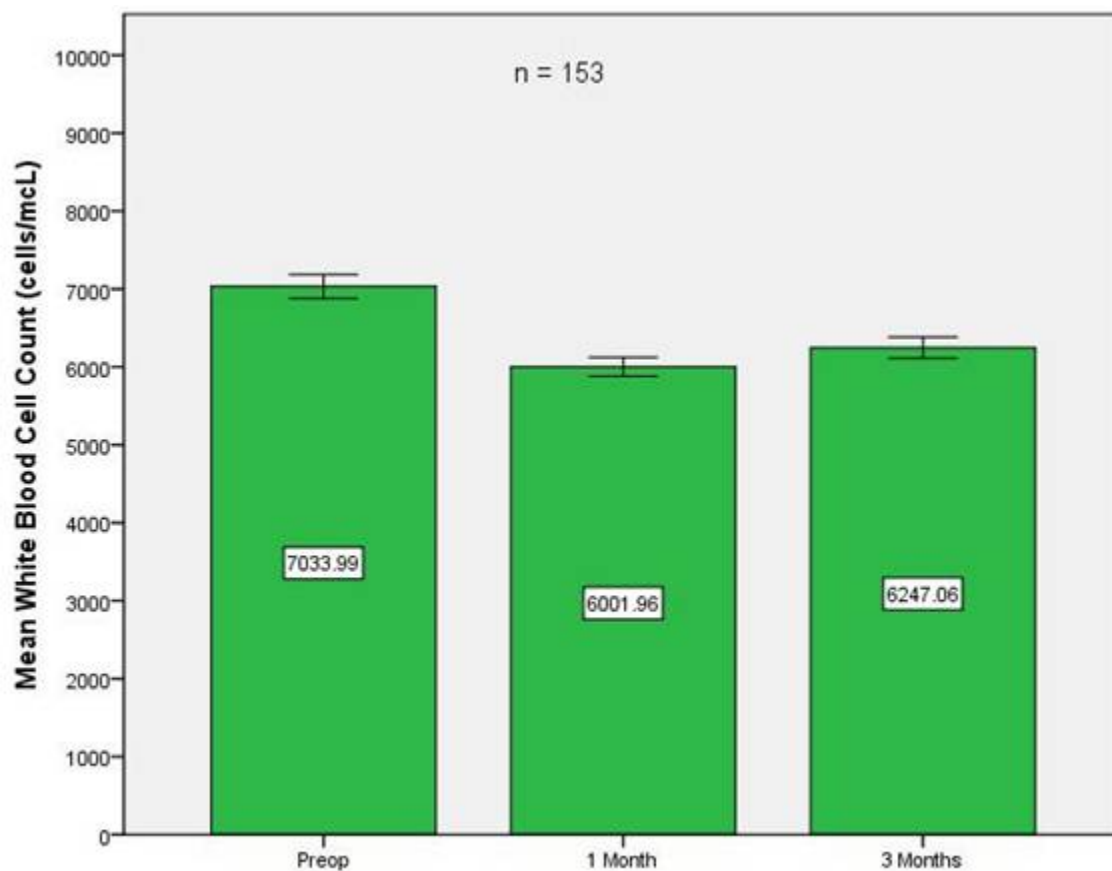


Fig. 2. White blood cell counts before and after liposuction.

Conclusions

Highly significant reductions in triglyceride level and leukocyte count are favorable metabolic effects of liposuction. These findings confirm the metabolic significance of subcutaneous fat and reveal for the first time a reduction in systemic inflammatory status after liposuction and abdominoplasty.

References

1. <http://www.americanheart.org/presenter.jhtml?identifier=183#Triglyceride>. Accessed December 11, 2010.
2. Klein S, Fontana L, Young VL, et al. Absence of an effect of liposuction on insulin action and risk factors for coronary heart disease. *N Engl J Med*. 2004;350:2549-2557.