

Metabolic-Bariatric Surgery Reduces Breast Cancer Risk in Premenopausal and Postmenopausal Women



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Conflict of Interest Disclosure

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Obesity and Breast Cancer

Reported association of BMI with breast cancer has differed by menopausal status:

- Obesity increases risk for postmenopausal breast cancer
Hint: (BMI and postmenopausal breast CA are positively associated)
- Obesity decreases risk for premenopausal breast cancer
Hint: (BMI and premenopausal breast CA are negatively associated)

Obesity and Breast Cancer – Mechanisms

- Differences in estrogen levels
- Mammographic density
- Adipokines
- Insulin signaling
- Chronic inflammation
- Note: premenopausal women with obesity have lower levels of estradiol and breast density and higher adiponectin and insulin than women without obesity

Study Aim: How Does Weight Loss Surgery Affect Breast Cancer (CA) Risk?

Since obesity increases risk for *postmenopausal* breast CA, will weight loss surgery reduce risk for *postmenopausal* breast CA?

Since obesity decreases risk for *premenopausal* breast CA, will weight loss surgery increase risk for *premenopausal* breast CA?

Previous Surgical Weight Loss Findings

Analysis included 301 premenopausal and 399 postmenopausal females who had weight loss surgery and then developed breast cancer

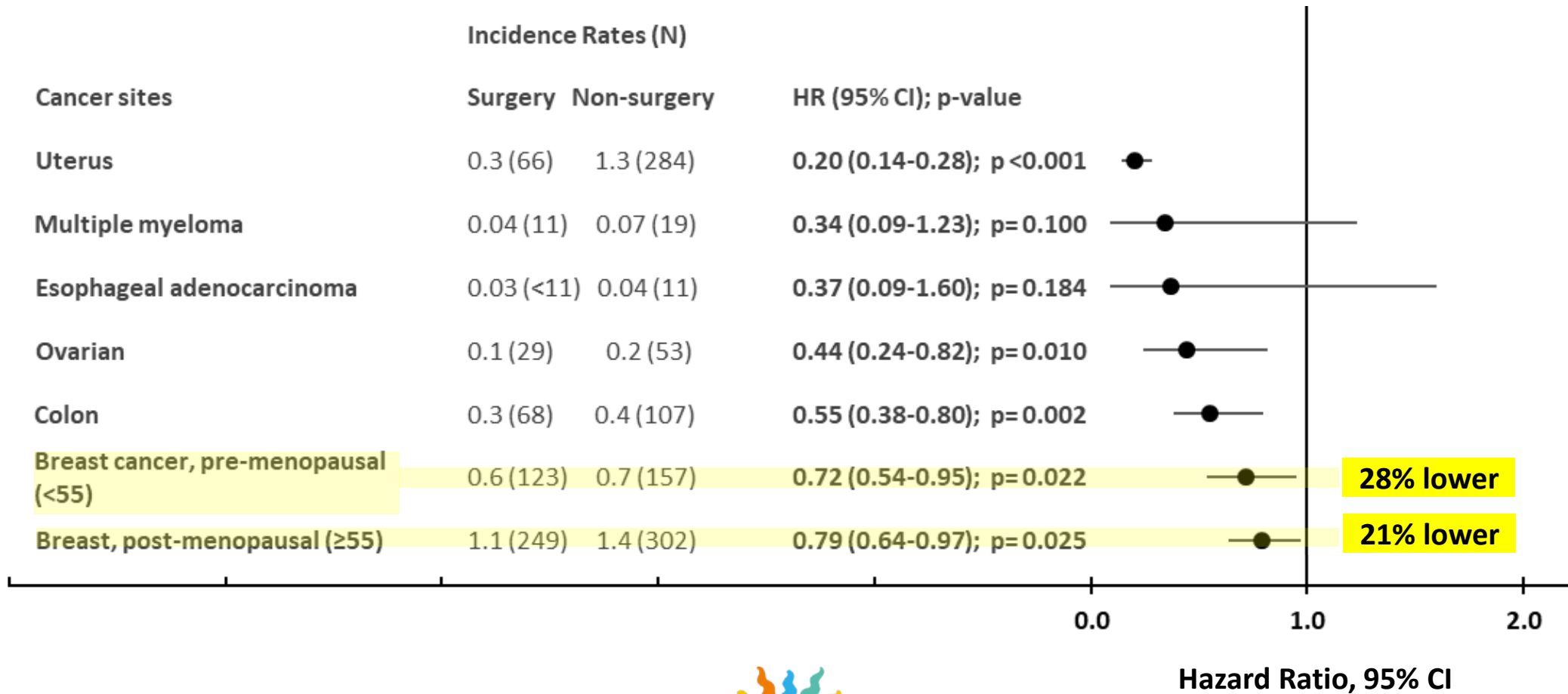
- Reduced risk for breast CA in premenopausal MBS patients – HR 0.72, 95% CI, 0.54-0.94 **28% lower**
- Reduced risk for breast CA in postmenopausal MBS patients – HR 0.55, 95% CI, 0.42-0.72 **45% lower**

Utah Obesity Study – Breast CA frequency

Characteristics	Non-surgery Group	Surgery Group	P-value
Total N	21,837	21,837	
Age (at index date), years	42.3 (11.9)	42.2 (11.7)	0.60
BMI (at index date), kg/m ²	46.2 (6.8)	46.0 (11.7)	0.003
Premenopausal breast CA, N (rate) (age < 55 years)	157 (0.7%)	123 (0.6%)	0.022
Postmenopausal breast CA, N (rate) (age ≥ 55 years)	302 (1.4%)	249 (1.1%)	0.025



Incidence of obesity-related cancers



(Death rates expressed per 1000 person years)



Conclusion

Our study reported a 21% and 28% reduction in breast cancer incidence among postmenopausal and premenopausal women, respectively.

These results are of clinical importance because weight loss in females with severe obesity may beneficially lower incidence for both postmenopausal and premenopausal breast cancer.



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