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### **149] the prognostic influence of body mass index in premenopausal breast cancer patients.**

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**Background:** The relation of body weight and breast cancer is complex. Higher body mass index (BMI) may be associated with higher incidence of breast cancer in the postmenopause and lower incidence in the premenopause. Little is known about the prognostic impact of current body weight in breast cancer patients. We evaluated the correlation between BMI and outcome of radically resected premenopausal breast cancer patients.

**Material and Methods:** BMI was assessed in 417 premenopausal patients in a prospective randomized multicenter ABCSCG trial 5 at time of diagnosis and at 3 years postoperatively. The two treatment arms consisted of 6 cycles of chemotherapy (CMF) versus endocrine therapy with goserelin 3.6mg monthly for 3 and tamoxifen 20mg daily for 5 years. Multivariate cox analysis was performed in both treatment groups to evaluate the prognostic impact of body weight for overall prognosis of these patients. Changes in body weight were assessed in both therapy groups.

**Results:** Patients with endocrine treatment as well as those patients receiving adjuvant chemotherapy did show weight gain at the end of adjuvant therapy. Median BMI increased from 24.3 to 25.9 in the endocrine treatment group and from 23.8 to 25.6 respectively, and did not differ significantly from each other. Relative Risk was increased in patients with primarily very low BMI (<18) and very high BMI (>35). Multivariate cox analysis did show a statistical significant influence of squared BMI on overall survival ( $p=0.0003$ ) and breast cancer related survival ( $p=0.0014$ ). Impact of BMI on disease free survival was not statistically significant ( $p=0.08$ ).

**Discussion:** We could demonstrate for the first time that obese and very slender premenopausal breast cancer patients have a significantly poorer outcome. However, whether or not patients with diagnosed breast cancer should be advised to normalize body weight is an open question. Moderate weight gain after adjuvant therapy was seen in all patients without correlation to the kind of treatment.