https://doi.org/10.29289/259453942020V30S1055

METABOLIC SYNDROME AND OBESITY AS FACTORS OF GOOD PROCNOSTIC ONCOLOGY IN WOMEN IN POST-MENOPAUSE WITH RECENT DIAGNOSIS OF BREAST CANCER

Andre Hideo Motoki[1], Daniel de Araújo Brito Buttros[1], Heloisa Maria de Luca Vespoli[1], Eduardo Carvalho Pessoa[1], Eliana Aguiar Petri Nahas[1]

[1]Faculdade de Medicina de Botucatu – Botucatu (SP), Brazil.

Objective: To evaluate the association between metabolic syndrome (MS), obesity, and central fat deposition with the immunohistochemical profile (IHC) of breast cancer (BC) in postmenopausal women. **Methods**: A comparative cross-sectional clinical study was carried out with 63 women with recent BC and MS, compared to 126 women with recent BC, without MS (control group). Inclusion criteria were: women aged 45-75 years, amenorrhea >12 months, without previous cancer treatment, attended at a University Hospital. The groups were matched for age, time since menopause, and body mass index (BMI), in the proportion of 1 case for 2 controls, according to the sample calculation of at least 186 women in their entirety. Clinical and anthropometric data were collected; tumor size and grade and the IHC profile (ER, PR, HER2, and Ki67). By IHC convention, tumors were grouped into five subtypes: Luminal A (ER+, PR+, HER-2 -, and Ki-67 <14%); Luminal B HER-2 - (ER+, PR+ or -, HER-2 -, and Ki-67≥14%); Luminal B HER-2+ (ER+, PR+ or -, HER-2+, and any Ki-67); Non-luminal HER-2 (ER-, PR-, HER2+, and any Ki-67); and Triple-negative (ER-, PR-, HER2-, and any Ki-67). Women with three or more diagnostic criteria were considered with MS: waist circumference (WC)>88 cm; TG≥150 mg/dL; HDL cholesterol<50 mg/dL; blood pressure ≥130/85 mmHg; glucose ≥100 mg/dL. For statistical analysis, the Student's *t*-test, Gamma Distribution, χ^2 test and logistic regression (odds ratio–OR) were used. **Results**: Among the participating women, the mean age, time since menopause and BMI were: 59.0±10.6 years, 11.4±9.6 years, and 28.5±5.5 kg/m^2, respectively; there was no statistical difference in the comparison between the groups. Women with MS had a higher occurrence of tumors ≤2cm when compared to those without MS (49.2 *vs.* 31.8%, respectively) (p=0.038). Women with MS had a higher incidence of tumors with PR-positive (p=0.046), HER2-negative (p=0.038), when compared to women without MS (79.4 *vs.* 65.8% and 44.5 *vs.* 27.8%, respectively). In obese patients (BMI≥30 kg/m^2), a higher proportion of HER2 negative tumors (p=0.047) was observed when compared to non-obese women (43.9 *vs.* 27.7%, respectively). In the multivariate analysis, a higher risk for tumors of the Luminal B HER-2 negative subtype was observed among women with MS (OR 2.00, 95%CI 1.03-3.89), obese (OR 2.03, 95%CI 1.06-3.90), and with central deposition of fat (OR 1.96, 95%CI 1.01-4.03). **Conclusion**: Metabolic syndrome, obesity, and central fat deposition correlate with factors of good prognosis for breast cancer, such as tumors ≤2 cm, PR+ and HER2-, in postmenopausal women.