



BREAST CANCER RESPONSE TO NEOADJUVANT CHEMOTHERAPY AND CALORIC RESTRICTION

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Introduction

Breast cancer is the most common type of female cancer in the world (25,1% of all female tumors in the world) and it is the first cause of death by cancer between female.

Neoadjuvant chemotherapy done before surgery is a valid alternative for patients with locally advanced breast cancer.

Some authors have hypothesized that caloric restriction (CR) could determine a reduction in the onset of some types of cancer and in their progression.

Bibliography

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Objective

The aim of the study is to compare the efficacy of CR combined with neoadjuvant chemotherapy versus a standard diet combined with neoadjuvant chemotherapy in women with breast cancer.

Methods

Patients with breast cancer diagnosis and indication to neoadjuvant chemotherapy were enrolled at T0. Two patient groups were defined: CR group (followed a strictly regulated diet by a dietician [22 patients]) and Control group (free diet [59 patients]). After 3 months (T1) and at 12 month (T2) patients underwent mammography and MRI and pathologic examination was performed on surgical sample. Prognostic factors and tumor size reduction and pathological response were also evaluated.

The sample size reached in the two groups (with a ratio of 1 to 3) allows the study to reach a power of 80%. The effect of the Diet on patient response was assessed using Logistic Regression models and the results are presented in terms of OR (rough and adjusted) and relative 95% Confidence Intervals.

Results

Pathological response to the CR diet therapy treatment was evaluated, at the end of the 6th month of treatment, following a histopathological examination conducted on a surgical sample and a score was assigned according to the Pinder classification. Results seem to highlight a positive effect of the diet on the response to the therapy (OR=4.12 95%CI from 1.29 to 13.11); association that remain consistent also after the age adjustment.

Conclusion

Although the sample size is still limited and enrollment is not yet completed, the results obtained show that a caloric restriction dietary regimen under the scrupulous monitoring by a nutritionist and a trained dietitian, is clinically safe and sustainable for breast cancer patients.