

NUTRITIONAL SUPPORT AND INTERACTION WITH ONCOLOGICAL TREATMENT IN BREAST CANCER

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Background and objectives: Nutritional support in patients with breast cancer has an important role during oncological treatment, which varies according to the stage of the breast tumor. When surgery is performed followed by radiotherapy or chemotherapy some of the possible adverse effects that may occur, are caused by the interaction of this treatment with nutritional support.

The aim of this study is to investigate the possible drug-food interactions that can occur in patients with breast cancer.

Materials and methods: It is a systematic review through the search in the databases PubMed, Scielo, MedlinePlus, Google Scholar and other sources such as National Cancer Institute and the World Organization of the Health on possible food-drug interactions in patients with breast cancer. The number of articles used has been twenty-three.

The inclusion criteria have been works published in English or Spanish, from 2008 to the present date and related to the treatment used in breast cancer. Key words: breast cancer, drug-food interaction, treatment, nutritional support, chemotherapy, grapefruit juice.

Results

The probability that patients experience adverse effects increases as plasma concentrations increase and by extrapolating the dynamic response, a situation that has been evidenced for Exemestane, a treatment in breast cancer whose absorption is influenced by food. In the case of grapefruit juice, it acts as a potent inhibitor of intestinal activity of CYP3A4 and increases the bioavailability of various drugs. The identified substances that act as clinically important inhibitors of CYP3A4 are bergamotín and 6',7'-dihydrobergamotín.

Grapefruit juice:

- Inhibits CYP3A4, cytochrome P450 isoenzyme involved in the metabolism of various drugs
- Increases plasma concentration creating a risk of overdose and adverse effects depending on the dose.
- Inhibits other P450 isoenzymes and blocks the action of proteins carriers such as organic anions and p-glycoprotein.

Conclusion:

There is a proven interaction between grapefruit juice and cancer treatment, particularly in breast cancer.

Its consumption should be avoided during treatment in breast cancer.