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Gamma linolenic acid with tamoxifen as primary therapy in breast cancer.

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Abstract

Gamma linolenic acid (GLA) has been proposed as a valuable new cancer therapy having selective anti-tumour properties with negligible systemic toxicity. Proposed mechanisms of action include modulation of steroid hormone receptors. We have investigated the effects of GLA with primary hormone therapy in an endocrine-sensitive cancer. Thirty-eight breast cancer patients (20 elderly Stage I-II, 14 locally advanced, 4 metastatic) took 8 capsules of oral GLA/day (total = 2.8 g) in addition to tamoxifen 20 mg od (T+GLA). Quality and duration of response were compared with matched controls receiving tamoxifen 20 mg od alone (n = 47). Serial tumour biopsies were taken to assess changes in oestrogen receptor (ER) and bcl-2 expression during treatment. GLA was well tolerated with no major side effects. T+GLA cases achieved a significantly faster clinical response (objective response vs. static disease) than tamoxifen controls, evident by 6 weeks on treatment (p = 0.010). There was significant reduction in ER expression in both treatment arms with T+GLA objective responders sustaining greater ER fall than tamoxifen counterparts (6-week biopsy p = 0.026; 6-month biopsy p = 0.019). We propose GLA as a useful adjunct to primary tamoxifen in endocrine-sensitive breast cancer. The effects of GLA on ER function and the apparent enhancement of tamoxifen-induced ER down-regulation by GLA require further investigation.

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