

Managing Drug Nutrient Interactions in Oncology: A Multidisciplinary Perspective



Professor Robert Thomas





Dietary Supplements Use During Chemotherapy and Survival Outcomes of Patients With Breast Cancer.

Journal of
Clinical
Oncology®

Vitamins A, carotenoids, coenzyme Q10

Ambrosone et al J Clin Oncol. 2020



Metastatic renal cell - cabozantinib & nivolumab with probiotics plus improved response ([Ab543](#)).

Bladder - *Lactobacillus* better chemo and biological treatment response ([Ab768](#)).



Systemic review of probiotics & chemo. 15 RCT (1356 patients)
2024 Li et al. J of Advanced Research 64, 223-5

Vitamin D

Post radical treatment:

Low 25(OH)D lower overall survival.

Jeffrey et al JCO 2008

During treatment:

- Avastin +/- Erbitux better response rate

Krishnamurthi et al 2013

CIPN:

Low levels increase severity

Elfeky 2026 Rep 2026





Animal studies:

Reduction in cisplatin & irinotecan doses

Daenen et *JAMA Oncol* 2015

Human studies:

Systemic review - Reduced side effects outcomes not worse

Juliana de Aguiar Omega-3 and chemotherapy. *Clinical Nutrition*, 2015



- Enhance killing effect in lab studies
- High safety in human studies
- Very high doses (>72g) with piperine - 5% < endoxifen
- No evidence of reduced effectiveness clinically
- Only applies to tamoxifen not AI's

Hussaarts et al Impact of Curcumin (with or without Piperine) on the Pharmacokinetics of Tamoxifen. Cancers 2019 Mar 22;11(3):403



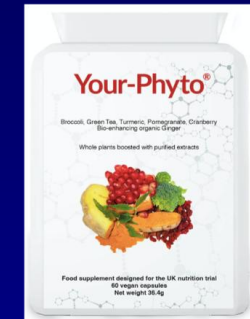
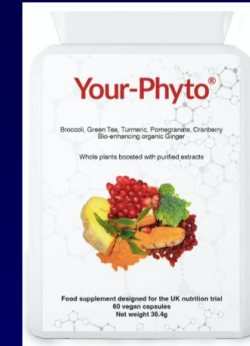
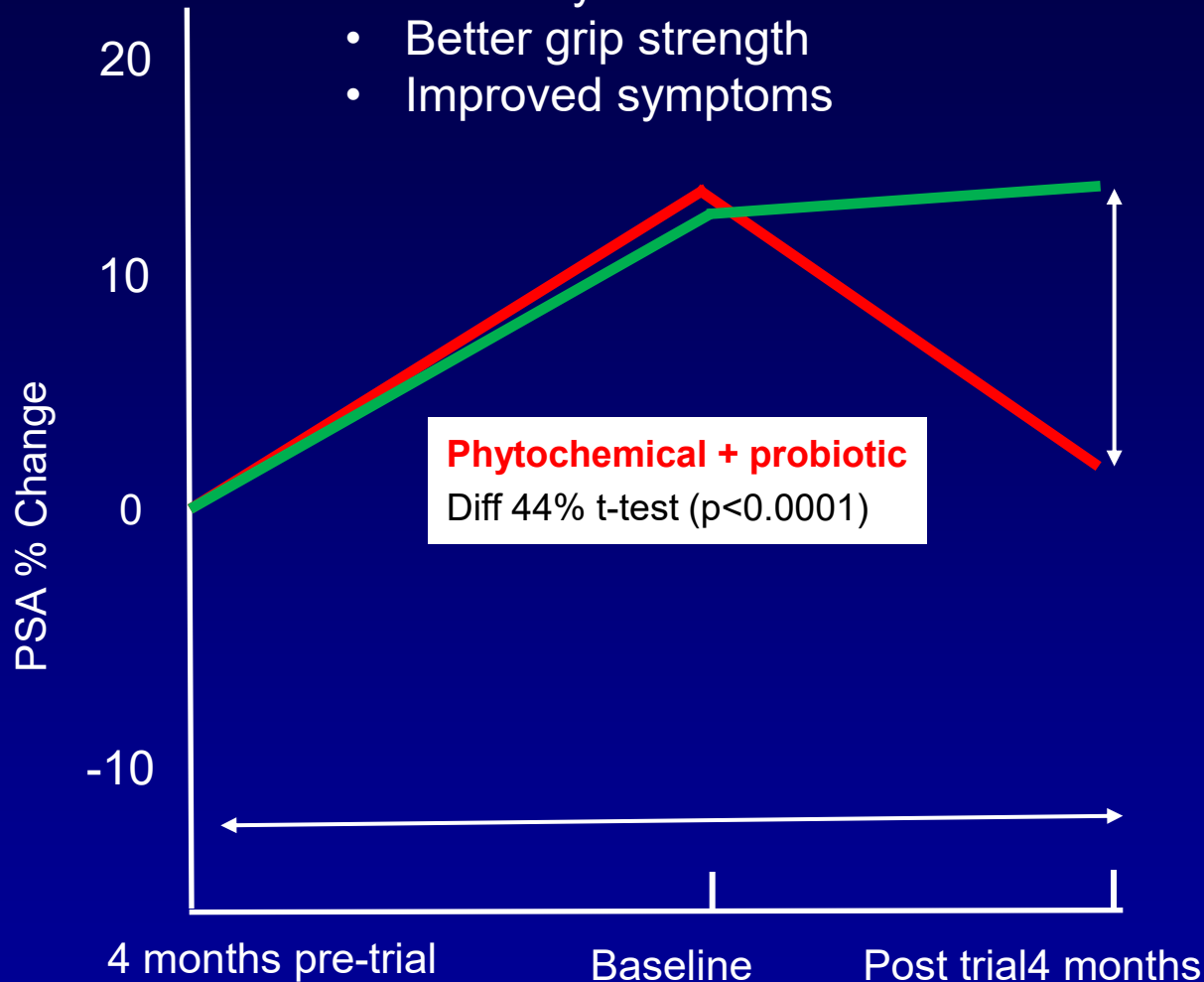
Safety:

Does interfere with chemotherapy or radiation therapy **Simone et al. Altern Ther Health Med. 2007**

Improved effectiveness

For chemotherapy drugs (doxorubicin, paclitaxel, 5-fluorouracil, and cisplatin) **(Mansouri et al., 2020) (Farghadani & Naidu, 2022).**

- Slower prostate cancer progression
- Lower systemic inflammation
- Better grip strength
- Improved symptoms



No interaction

- BP
- Warfarin
- Diabetic drugs
- Platelets
- Statins

— Phytochemicals & probiotic

— Phytochemicals & placebo

Pipeline and ongoing integrative trials



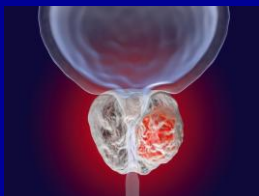
Side effects Anti-body titres



Menopausal symptoms, QoI



Sleep quality



Time to progression

Many nutritional interventions help clinical outcomes

Inappropriate conclusions – patients missing out



More research needed